

Nutrition for Health and Fitness: Fat in Your Diet¹

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Fat is big news. Almost every day we hear about the epidemic of obesity, which is an excessive accumulation of fat in the body. We also hear a variety of recommendations for how much and what type of fat we should have in our diets. With new research being published all the time, it can get confusing for consumers.

Most health authorities agree that Americans should follow diets low in saturated fat and trans fat. Eating this way can help many people decrease their risk of heart disease, the leading cause of death in the US.

This fact sheet will help you understand why it is a good idea to choose a diet that is low in saturated fat and trans fat. It will also provide tips to help you meet these dietary guidelines, as well as some tasty recipes to try. You will discover simple changes you can make in your eating habits to help reduce your health risks.

Getting the Facts

What is fat?

Fat is a source of energy, or calories. It helps the body absorb the fat-soluble vitamins A, D, E, and K and contributes to the good taste of many foods. Fats are made up of mixtures of fatty acids that are classified based on their chemical structure.

- **Saturated (SFA):** Straight chain molecule with no double bonds. SFAs stack easily. This type of fat is solid at room temperature.

- **Monounsaturated (MUFA):** Chain molecule with one double bond that puts a bend in the molecule. MUFAs do not stack as well as SFAs. This type of fat is liquid at room temperature.
- **Polyunsaturated (PUFA):** Chain molecule with two or more double bonds. PUFAs do not stack. This type of fat is also liquid at room temperature.



Figure 1. Olive oil is high in MUFA. It is a great choice for salads and low-heat cooking.

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***What's in a name?** When a fat or oil is high in one type of fatty acid, people often call it that type of fat or oil. For example, olive oil, which is high in monounsaturated fatty acids, is often referred to as a monounsaturated oil, but it actually contains a combination of fatty acids.*

Fat is energy-dense, meaning it is high in calories. Each gram of fat in food supplies about nine calories, while

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protein or carbohydrates provide about four calories per gram. This is the reason high-fat foods are also high in calories.

What is trans fat?

Trans fatty acids (TFAs) are straight molecules that have a similar effect on the body as SFAs. Both TFAs and SFAs raise the level of harmful fats in the blood, but TFAs also decrease the beneficial type, making them even worse for your health.

TFAs occur naturally in a few foods, but most are formed during **hydrogenation**. This food processing technique adds hydrogen to PUFA, which eliminates double bonds and straightens the molecule. This results in a shelf-stable fat that is popular in foods like cookies and crackers. The process also makes TFAs similar to SFA in their effects on the body.

In recent years, many food companies have removed some or all of the TFAs from their products due to health concerns. However, foods labeled “0” trans fat can have up to 0.49 grams of TFA *per serving*. Be sure to read ingredient labels and not just the front packaging or Nutrition Facts to know what is in the foods you eat. Look for “partially hydrogenated oil” in the ingredients list. This lets you know trans fat has been added to the product.

What is cholesterol?

Cholesterol is a fat-like substance that is part of all human and animal cells. Our bodies need cholesterol to form hormones, cell membranes, and other substances. The human body is able to make cholesterol in the liver, so it is not needed in the diet after the age of two.

FACT: *Young children need to have cholesterol in their diets, especially before the age of two. Cholesterol is critical for brain development.*

Blood Cholesterol and Heart Disease

High blood cholesterol is a **risk factor** for heart disease. The higher a person’s blood cholesterol is, the greater their chances are of having heart disease. Many Americans have high blood cholesterol. This is one reason why heart disease affects so many men and women in this country.

To determine and monitor your risk, you can have your fasting blood cholesterol checked on a regular basis. Most health authorities agree that it is best to have a total blood cholesterol below 200 milligrams per deciliter (mg/dL).

What about HDL and LDL?

Cholesterol is carried in the blood within “packages” called **lipoproteins**. Lipoproteins consist of fat, cholesterol, and protein. There are two basic types, high-density lipoprotein (HDL) and low-density lipoprotein (LDL), which have different effects on the body.

LDLs contain mostly fat and cholesterol and are harmful because they **deposit** cholesterol in the arteries. This can result in a buildup of plaque, which blocks blood flow and increases heart disease risk. A diet low in saturated fat and trans fat can lower LDL levels in many people.

HDLs contain more protein and less fat and cholesterol than LDLs. HDLs are heart-healthy because they **remove** cholesterol from the arteries. Exercise helps to raise HDL levels.

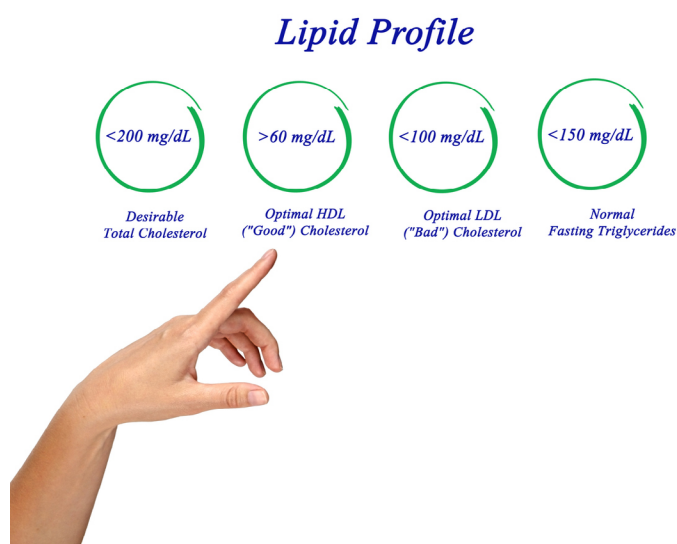


Figure 2. Target levels for blood lipids vary among individuals. Speak to your physician about optimal levels for you. Credits: vaeenma/iStock.com

Dietary Fat and Blood Cholesterol

The way diet affects blood cholesterol varies among individuals. However, in general, people who eat diets low in saturated and trans fats tend to have lower blood cholesterol levels. The best practice is to maintain a diet that is low in SFA and TFA, because both types of fat raise blood cholesterol levels. The animal fats in whole milk dairy products, beef fat, and lard are high in SFAs, many of which raise harmful LDL cholesterol levels.

Oils are fats that are liquid at room temperature. Some plant oils, such as coconut, palm, and palm kernel oils, are unique because they are high in SFA, unlike most vegetable oils. More research on plant-based SFAs and their role in cardiovascular health is needed. At this time, a prudent

recommendation is to limit consumption of foods that are high in SFAs.

High in MUFA:

- Olive oil and olives
- Canola oil
- Peanut oil
- Nuts and nut butters
- Avocados

High in PUFA:

- Safflower oil
- Soybean oil
- Grapeseed oil
- Flaxseed oil
- Walnuts

Fats that contain mostly MUFA or PUFA may lower blood cholesterol. Even though these fats tend to lower blood cholesterol, their consumption should also be moderated to avoid excessive calorie intake. All fats are high in calories, providing nine calories per gram. One teaspoon of any oil contains five grams of fat and roughly 45 calories.

How much fat do we need?

Current dietary guidelines suggest that 20 to 35% of an adult's energy intake should be from fat. This means that an adult who consumes 2,000 calories per day may eat between 44 and 78 grams of fat per day (Table 1). Most of the fat consumed should be MUFA and PUFA.

We should also increase our intake of omega-3 fatty acids. Fatty fish, such as salmon, mackerel, herring, lake trout, albacore tuna, and sardines are good sources of omega-3 fatty acids. Plant sources include flax seeds, chia seeds, walnuts, pumpkin seeds, and canola oil. The American Heart Association recommends consuming omega-3 fatty acids from **foods**. Some doctors recommend fish oil capsules for their patients with existing coronary artery disease or high blood triglycerides to supplement omega-3 fatty acid intake. Check with your health care provider before taking fish oil capsules.

FAST FACT: *The outer hull of flaxseeds is difficult to digest. Flaxseeds must be ground or milled to get the nutrients out of them! Ground flax should be stored in the refrigerator to prevent spoiling.*



Figure 3. Children under the age of two years should **never** be on a low-fat diet. Young children need adequate fat, calories, and cholesterol to grow and develop.

Credits: SolStock/iStock.com

Table 1. Recommended fat intake chart.

Daily Calories	Recommended Fat Intake
1,600	36 to 62 grams
2,200	49 to 86 grams
2,800	62 to 109 grams

What's on a label?

Food labels can help you plan healthy meals for a healthy diet. The nutrition and ingredient information on food labels can be used to identify foods with smaller amounts of saturated fat and trans fat. These labels make it easy to compare the nutrient content of foods.

Nutrition Labeling

Nutrition information is provided on the [Nutrition Facts panel](#). The Food and Drug Administration (FDA) recently updated the Nutrition Facts panel format. Over the next few years the new panel will replace the current format on food labels.

On the Nutrition Facts panel, total fat, saturated fat, and trans fat are listed in grams; total fat and saturated fat also are given as a percent of the Daily Value (DV). The DV is based on a 2,000-calorie diet, with 30% of your total calories coming from fat and 10% of calories coming from saturated fat.

Remember that the “20 to 35% of calories from fat” goal applies to your overall diet, not to a single food. Foods high in fat can be a part of a healthy diet, and many contain important nutrients. In general, eat high-fat foods in small amounts and less often than lower fat foods.

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per 2/3 cup	
Calories	230
% DV*	
12%	Total Fat 8g
5%	Saturated Fat 1g
	Trans Fat 0g
0%	Cholesterol 0mg
7%	Sodium 160mg
12%	Total Carbs 37g
14%	Dietary Fiber 4g
	Sugars 1g
	Added Sugars 0g
	Protein 3g
10%	Vitamin D 2 mcg
20%	Calcium 260mg
45%	Iron 8mg
5%	Potassium 235mg

* Footnote on Daily Values (DV) and calories reference to be inserted here.

Figure 4. The Nutrition Facts panel, which is found on most food packages, can help you make food buying decisions based on nutrient content of foods.

Credits: U.S. Food and Drug Administration/Wikimedia Commons/Public Domain

You can use the Nutrition Facts panel to compare the amount of fat or saturated fat in different brands of the same food item. The serving size on the food label of certain types of food (such as bread, yogurt, or beans) must be the same for all brands. The updated food labels have serving sizes that more accurately reflect amounts of food that people usually eat. **Note:** If you usually eat a serving that is larger than the serving size on the label, then you will ingest more fat, calories, and other nutrients than what you read on the label.

Ingredient Labeling

The labels of most packaged foods include a list of ingredients. Ingredients are listed in order of descending weight, with the item present in the greatest amount listed first. Foods that have a fat or oil listed first will be high in fat and calories. Choose these foods less often.

Some food packages label the food as “low-fat” or “high-fiber.” Each claim has a definite meaning. Foods must meet government standards for the claim to be used on a food label. Claims related to fat and cholesterol are listed in Table 3.

Table 2. Fatty acid content of fats and oils.

Ingredients high in SFA (limit these)	Ingredients high in PUFA or MUFA
Beef fat	Canola oil
Butter	Corn oil
Cream	Cottonseed oil
Lard	Grapeseed oil
Cocoa butter	Olive oil
Coconut oil	Peanut oil
Palm oil	Safflower oil
Palm kernel oil	Soybean oil
	Sesame oil
	Sunflower oil

Source: USDA, ARS, Nutrient Data Laboratory. USDA National Nutrient Database for Standard Reference. <http://ndb.nal.usda.gov>.

Table 3. Fat and cholesterol label claims.

If the label says:	It means that one serving has:
Fat-free	Less than ½ gram fat
Saturated fat-free	Less than ½ gram saturated fat
Cholesterol-free	Less than 2 milligrams cholesterol
Low-fat	3 grams or less fat
Low saturated fat	1 gram or less saturated fat and no more than 15% of calories from saturated fat
Low cholesterol	20 milligrams or less cholesterol and 2 grams or less saturated fat
Reduced fat or less fat	At least 25% less fat than the regular food
Reduced saturated fat or less saturated fat	At least 25% less saturated fat than the regular food
Reduced cholesterol or less cholesterol	At least 25% less cholesterol and 2 grams or less saturated fat

Cutting Down on Fats

Enjoy Low-Fat Foods

- Drink low-fat (1%) or fat-free milk.
- Eat fresh fruits and vegetables for snacks.
- Have a piece of fruit or some fresh fruit salad for dessert.
- Use a small amount of oil-based, low-fat, or fat-free dressing on salads.

Use Low-Fat Ingredients When Cooking

- Use **1% or fat-free milk** instead of whole or 2% milk.
- **Cut down on the oil or fat** in recipes. Start by cutting out ¼ of the oil or fat, then cut the oil or fat in half. Some recipes, like stir-fried foods, need very little oil. Other recipes, like most cake recipes, cannot be changed without losing quality.

- **Substitute plain yogurt or applesauce** for some or all of the oil in quick breads.
- **Reduce the amount of mayonnaise** used in casseroles and salads.
- Use **lean cuts of beef** when using beef in a recipe. The leanest cuts are eye of round, top round, round tip, bottom round, and top sirloin. Trim off the visible fat.
- **Decrease the amount of meat and increase the amount of vegetables** you use in casseroles.
- Use **ground round, very lean ground beef, or ground turkey breast** (or a mixture of these) instead of ground chuck.
- **Remove skin from poultry** before eating. You can cook poultry with the skin on, but if you only season the skin, you will lose much of the taste when the skin is removed. **Rub seasonings under the skin or remove the skin before cooking** and season the meat instead.
- Use **water-packed tuna** instead of tuna packed in oil.
- Season food with **herbs, spices, and lemon or lime juice**. Stay away from heavy sauces, animal fats, and stick margarine.
- Substitute **low-fat or fat-free Greek or regular plain yogurt or mock sour cream** (recipe included) for sour cream or mayonnaise.
- Use **evaporated fat-free or low-fat milk** instead of cream or half-and-half.
- **Roast, bake, broil, or grill meat** instead of frying it so that fat can drip off.
- Chill meat or poultry broth and gravies until the fat is solid; then skim the fat off the surface before using.



Figure 6. Increase the proportion of vegetables to meat in mixed dishes you prepare. This will help control the amount of fat in the recipe.

Credits: robynmac/iStock.com

Using Your Favorite Recipes in Moderation

What about Grandma's famous meatloaf or Mom's fabulous pecan pie? Do you have to give up your family's favorite foods because they are high in fat? Absolutely not! You can enjoy all the traditional foods your family likes. Moderation is the key. Just keep these tips in mind:

- Eat these foods less often.
- Have small portions.
- Eat slowly and enjoy every bite.
- When possible to do without changing the taste, change one or more ingredients to cut down on fat.



Figure 5. Season foods with herbs and spices. Avoid heavy sauces, animal fats, and stick margarine.

Credits: Floortje/iStock.com

Use Low-Fat Cooking Methods

- **Steam, boil, broil, grill, or bake** vegetables more often. Avoid deep-frying.
- When **stir-frying**, use a non-stick wok or frying pan and add vegetable or chicken broth if needed to avoid sticking.

Healthy Recipes

Mock Sour Cream

1 cup low-fat cottage cheese

¼ cup fat-free milk or buttermilk

½ teaspoon (or more) fresh lemon juice

In a blender or food processor, combine cottage cheese and buttermilk. Process until smooth. Pour in storage container and stir in lemon juice to taste. Makes 1 cup.

Approx. per serving: 10 calories; fat free

Source (used with permission): *The Good Book of Nutrition*, American Cancer Society, Florida Division, Inc.

The following recipes are reprinted from *What's Cooking? USDA Mixing Bowl*.



Figure 7. This luscious, low-calorie sour cream is just the right topping for baked potatoes, chili, and tacos.

Credits: Magone/iStock.com

Couscous with Peas and Onions

1 cup couscous

1 cup onion, finely chopped

½ teaspoon sage, ground

1 teaspoon olive oil

1½ cup water

1 cup green peas, frozen

½ teaspoon salt (optional)

Combine the oil and onions in a skillet. Sauté for 5- to 10-minutes until lightly browned. Add the peas, sage, water,

couscous, and salt if desired. Cover and cook on low for 5 minutes or until peas are tender but still bright green and all of the water is absorbed. Fluff with fork. Makes 4 servings, 1 cup per serving.

Approx. per serving: 190 calories; 1.5 grams fat



Figure 8. Use fresh or dried herbs to add flavor to foods without adding extra fat or sodium.

Credits: jmbatt/iStock.com

Honey Lemon Chicken

1 tablespoon vegetable oil

4 pounds chicken, cut into 8 pieces

½ cup all-purpose flour

1 teaspoon salt

¼ cup honey

¼ cup lemon juice

Preheat oven to 375 degrees. Line a baking pan with foil and lightly oil the foil. Combine the flour and salt in a plastic bag. Shake chicken pieces in flour mixture, remove from bag, and place in prepared pan. Bake for 45 minutes. Combine honey and lemon. Spoon mixture over chicken to glaze the pieces. Bake another 15 minutes. Makes 8 servings.

Approx. per serving: 330 calories; 8 grams fat

Yogurt Pops

6 ounces yogurt, fat-free, flavored or plain

$\frac{3}{4}$ cup 100% fruit juice

Put the yogurt and juice in a bowl; stir together well. Pour the mixture into paper cups. Stick a popsicle stick in the center of the mix in the cup. Freeze until they turn solid. Makes 4 servings. *You may use any flavor yogurt and any flavor juice. Some recommended combinations are lemon yogurt with orange juice, and vanilla yogurt with raspberry juice.*

Approx. per serving: 45 calories; 0 grams fat

Additional Recipes

American Cancer Society, Florida Division, Inc.

The Good Book of Nutrition. Favorite Recipes Press.

American Heart Association

Simple Cooking and RECIPES: <https://recipes.heart.org/>

Centers for Disease Control and Prevention

Healthy Recipes: http://www.cdc.gov/healthyweight/healthy_eating/recipes.html

National Heart, Lung, and Blood Institute

Platillos Latinos: http://www.nhlbi.nih.gov/health/public/heart/other/sp_recip.pdf

Heart Healthy Home Cooking: African American Style: <http://www.nhlbi.nih.gov/files/docs/public/heart/cooking.pdf>

Keep the Beat Recipes: Deliciously Healthy Dinners: https://www.nhlbi.nih.gov/files/docs/public/heart/Dinners_Cookbook_508-compliant.pdf

Stay Young at Heart: <http://www.nhlbi.nih.gov/health/resources/heart/syah-html/>

U.S. Department of Agriculture

What's Cooking? USDA Mixing Bowl: <http://www.whatscooking.fns.usda.gov/>

U.S. Department of Health and Human Services

Million Hearts: <http://recipes.millionhearts.hhs.gov/>

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How do you score on fat?

Do the foods you eat provide more fat than is good for you? Answer the questions below, then see how your diet stacks up. (Check only one box for each question.)

	Seldom or Never	1 or 2 Times a Week	3 to 5 Times a Week	Almost Daily
How often do you eat:				
1. Deep fat-fried foods?				
2. Fatty meats such as bacon, sausage, luncheon meats, or fatty steaks and roasts?				
3. Whole milk, regular hard cheeses, or ice cream?				
4. High-fat desserts such as pies, pastries, or cakes?				
5. Rich sauces or gravies?				
6. Grains with lots of fat such as croissants or rich muffins?				
7. Whipped creams, table cream, half and half, sour cream, or cream cheese?				
8. Butter or margarine on vegetables, dinner rolls, or toast?				
9. Crackers or cookies containing trans fats (check the label)?				

Take a look at your answers. If you have more than one or two responses in the last two columns, you may have a high fat intake. You can cut back on the **amount** you eat as well as the **number of times** you eat fatty foods. Use the tips in this fact sheet to help you lower your fat intake.