PB1620-A Primer on Dietary Fats

The University of Tennessee Agricultural Extension Service

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A Primer on Dietary Fats

Nutrition Facts

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

Amount Per Serving
Calories 260
Calories from Fat 20%

% Daily Value
Calories 25%
Total Fat 30g
Saturated Fat 15g
Trans Fat 0g
Cholesterol 0mg
Sodium 200mg
Total Carbohydrate 20g
Dietary Fiber 0g
Sugars 10g
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: 65g 25g
Sat Fat: 20g 10g
Cholesterol: 300mg 100mg
Sodium: 2,400mg 2,000mg
Total Carbohydrate: 25g 30g
Dietary Fiber: 25g 30g

Calories per gram:
Fat 9 Carbohydrate 4 Protein 4
It is not unusual to hear or read about how excess fat in your diet can lead to life-threatening diseases such as heart disease and cancer. You may already be trying to cut down on the amount of fat you eat, but are not sure how. The purpose of this publication is to help you understand the different forms of fat in your diet and help you limit the amount of fat you eat.

Fats Are Essential for Our Body

We need some fat (also called fatty acids) in our diet for good health – just not too much. Some fatty acids are needed in the diet because our body cannot make them. These are called “essential fatty acids.” They are necessary for normal growth in children and healthy skin in children and adults. Essential fatty acids also help your body make hormone-like substances that are important in regulating your blood pressure and immune response (ability to fight infections).

We get the essential fatty acids we need when we eat a well-balanced diet.

Triglycerides

Most of the fat in your diet consists of triglycerides. Triglycerides are made up of the fatty acids referred to as saturated, monounsaturated and polyunsaturated. When you reduce the amount of fat you eat, you reduce triglycerides in your diet.

Fatty Acids

Fatty acids are long chains of carbon, hydrogen and oxygen that are joined together. The way the carbon, hydrogen and oxygen are joined determines whether the resulting fatty acid is called saturated, monounsaturated or polyunsaturated. It also affects their physical shape, stability and how they react in your body.

Saturated and unsaturated.

Whether a fat is saturated or unsaturated is determined by whether it is solid or liquid at room temperature and how long it will keep on the shelf. Saturated fats are solid at room temperature and will not go “bad” or rancid as quickly as unsaturated fats. Saturated fats include animal fats such as lard and butter, and some plant sources such as cocoa butter, coconut oil and palm oil. In the body, some saturated fatty acids raise blood cholesterol levels. High blood cholesterol including high LDL-cholesterol (“bad-cholesterol”) is a risk factor for coronary heart disease.

Unsaturated fats, whether monounsaturated or polyunsaturated, are liquid at room temperature. Plants are the main source of unsaturated fat. Safflower, sunflower and corn oils contain higher levels of polyunsaturated fats. Olive and canola oils contain higher levels of monounsaturated fats. In the body, unsaturated fatty acids help lower blood cholesterol levels when substituted for saturated fat.

Omega-3 Fatty Acids.

These are polyunsaturated fatty acids that may help prevent blood clots that can cause a heart attack or stroke. They may also help prevent hardening of the arteries and
block the growth of some types of tumors. Omega-3 fatty acids are found in cold-water fish such as mackerel, albacore, tuna, salmon, sardines and lake trout. These food sources of omega-3 should be included in a healthy diet; however, taking a dietary supplement of omega-3 (fish oil supplement) is not recommended. Some research studies show that too much omega-3 from supplements can cause excessive bleeding in case of injury or surgery and could increase the risk for a stroke.

**Stearic Acid.**

Stearic acid is a saturated fatty acid found in many foods, including red meat and chocolate. Research shows stearic acid, unlike other saturated fatty acids, does not elevate total blood cholesterol or LDL-cholesterol levels.

**Trans Fatty Acids and Hydrogenation.**

Trans fatty acids are produced when an unsaturated oil (liquid) is converted to a semi-solid (shortening or margarine) by a process called hydrogenation. Trans fatty acids also occur naturally in meats and dairy products.

Oils are hydrogenated to make them better for certain uses. For example, by hydrogenating vegetable oils to make margarine, manufacturers can produce a spreadable topping that can be used immediately upon removal from the refrigerator. Likewise, manufacturers can produce shortenings that make flakier pie crusts than butter or oils. Hydrogenation also increases the stability of an oil, making it less susceptible to spoiling when exposed to air.

Some research studies have shown that trans fatty acids may be a risk factor for heart disease. Food sources high in trans fatty acids include margarine; vegetable shortening; commercially baked goods such as crackers, muffins, cakes, chips, doughnuts and cookies; French fries; and reduced-calorie mayonnaise.

**Cholesterol**

Cholesterol is a waxy substance found in all animal fats but not in plant fats. In the food we eat, it is called dietary cholesterol. Dietary cholesterol does not appear to raise your blood cholesterol as much as saturated fat and excess calories. Your body makes most of the cholesterol in your blood. However, saturated fat and excess calories in your diet may cause your body to make too much cholesterol.

Cholesterol is vital to good health, but too much cholesterol in your blood can be a health risk. Cholesterol is part of all body cells and it is important for the formation of brain and nervous tissue. Vitamin D and some hormones are made from cholesterol. An individual’s level of blood cholesterol is affected by several factors, including diets high in saturated fat and/or calories, a lack of physical activity and heredity. A high level of blood cholesterol is a risk factor for coronary heart disease.

**Fat and Healthful Diets**

All food can fit into a healthful diet in moderate amounts. To allow for individual food preferences and cultural influences, it is important to avoid categorizing any food as “good” or “bad.” **Balance, variety and moderation are the keys to healthful eating.**

Because saturated fat increases blood cholesterol levels, national nutrition guidelines recommend that no more than 10 percent of calories come from saturated fat. To achieve this, you should eat a diet rich in grains,
vegetables and fruits, with moderate amounts of lean meats, fish, poultry and low-fat or fat-free dairy foods.

The Food Guide Pyramid is your guide for healthful eating. Notice that the plant foods — grains, fruits and vegetables — are at the base of the pyramid. They form the base or foundation of your diet. For healthful diets, make low-fat choices from these food groups.

**Fat in the Food Groups**

Fat is found naturally, in varying amounts, in many foods. Meats, full-fat dairy products, poultry, fish and vegetable oils supply most of the fat in the American diet. Vegetable or plant oils are derived from the seeds or kernels of plants, such as sunflower seed, cottonseed and corn kernel. Oils also come from olives, coconuts and avocados, which are fruits. Other vegetables, fruits and whole grains contain almost no fat.

**Thirty Percent Rule.**

No more than 30 percent of your total calories should come from fat. No more than 10 percent of the total fat calories should come from saturated fat. The 30 percent rule does not apply to a specific food. Some foods in your meal may contain more than 30 percent of the calories from fat, but other foods may contain little, if any, fat. It is the total diet or the overall average that counts. When
New heading signals a new label

More consistent serving sizes, in both household and metric measures, replace those that used to be set by manufacturers.

Nutrients required on nutrition panel are those most important to the health of today's consumers, most of whom need to worry about getting too much of certain items (fat, for example), rather than too few vitamins or minerals, as in the past.

Conversion guide helps consumers learn caloric value of the energy-producing nutrients.

New mandatory component helps consumers meet dietary guidelines recommending no more than 30 percent of calories from fat.

% Daily Value shows how a food fits into the overall daily diet.

Conversion guide helps consumers learn caloric value of the energy-producing nutrients.

Reference values help consumers learn good diet basics. They can be adjusted, depending on a person's calorie needs.

Source: The Food and Drug Administration

you look at your total diet, some days you may eat more than 30 percent of calories from fat, whereas other days you may eat less. Balancing your fat intake over several days should be your goal.

The Nutrition Facts food label will help you keep track of the amount of fat you eat. Fast-food and other restaurants can provide you with information about the fat content of the food they serve.
Tips for Reducing Fat in Your Diet

• Eat moderate portions. The recommended serving size of cooked meat is three ounces – a piece the size of a deck of playing cards.

• Choose non-fat or low-fat milk and other dairy products.

• Check the Nutrition Facts Label to see how much fat and saturated fat are in a serving; choose foods lower in fat and saturated fat.

• Use low-fat food preparation methods.

• Use liquid vegetable oils rather than solid fats and shortening. (The liquid oil has the same number of calories as the same amount of a solid fat or shortening, but is lower in saturated fat and trans fatty acids.)

• Choose lower fat foods from each of the food groups.

• Balance your fat intake — when you choose a high-fat food balance it by choosing other low-fat foods.

• Choose fewer fried, deep-fat-fried or breaded foods.

• Choose fewer fatty meats such as sausage, luncheon meat or heavily marbled steaks.

• Treat yourself to healthier snacks and desserts, such as fruit.

• Allow poultry and meat broth to cool, then skim off fat before making dressing, gravy or dumplings.

• Moderation in fat consumption is only one aspect of good nutrition. Variety, moderation and balance of all foods is the most prudent approach. A well-balanced diet, combined with getting regular exercise, maintaining a healthy weight, avoiding smoking and controlling chronic diseases such as hypertension and diabetes, is the best approach to a healthful lifestyle.

Other Tips

• A medium piece of fruit is one serving.

• A cup of pasta is two servings.

• A serving of vegetables is one-half cup.
To calculate the total grams of fat right for you:

1. Multiply the average number of calories you eat each day by .3 to determine how many calories equals 30 percent of your total calories. (Average number of calories x .3 = 30 percent total calories)

2. Divide the answer by nine (each gram of fat contains approximately nine calories) to get the total grams of fat. (30 percent total calories / 9)

Example: 2000 calories multiplied by .3 calories from fat = 600 calories from fat (2000 x .3 = 600). Calories from fat (600) divided by nine calories per gram = about 65 grams of fat (600/9 = 65).

A quick way to estimate the grams of fat right for you.

1. Divide your desirable weight (healthy weight) by 1/2 or 0.5. The answer will tell you the total grams of fat you need each day.

For example, if your desirable or healthy weight is 130 pounds, divide by 0.5. The answer is 65 grams of fat each day (130/0.5 = 65).

References

National Research Council.  

Wardlaw, GM, Inselm PM.  


