

THE FACTS ABOUT FAT

Recent reports indicate that a cardioprotective dietary pattern should provide a **fat intake of 25-35%** of calories with some fats being better for us than others. Fat is not one entity, but several chemically different molecules with varying degrees of flexibility.

Know your Fats

Cholesterol is a white, waxy fat found naturally in your body, is used to build cell walls and make certain hormones. It is present in all animal products we eat: meat, fish, milk, and milk products, and egg yolk. Too much of it can clog your arteries and eventually choke off the supply of blood to the heart, which is the reason high cholesterol is a leading risk factor for heart disease. In the blood, cholesterol takes two forms. **HDL** or “good” cholesterol cleanses the arteries; **LDL** or “bad” cholesterol builds up and clogs arteries.

The only way to find out your cholesterol level is to have your blood tested. Here’s what the numbers mean:

Risk of heart disease	Total cholesterol	LDL	HDL	Triglycerides
Desirable/optimal	<200	<100	>60	<150
Near optimal		100-129		
Borderline high	200-239	130-159		155-199
High	>240	160-189		200-499
Very high		>190		>500
Low			<40	

Triglycerides are the most common lipid (fat) in the body and in food. Triglycerides circulate in the blood and, like cholesterol, are measured with a fasting blood test. Triglycerides can be lowered by:

- cutting down on calories, particularly calories from refined carbohydrates such as candy and commercial baked goods
- getting more exercise
- reducing excessive alcohol intake.
- replacing carbohydrates with monounsaturated fats also helps lower triglycerides.

Saturated fat is found in large proportions in fats of animal origin and in some vegetable fats, including palm and coconut oils. Other sources of saturated fats include meats, poultry skin, whole milk, and whole milk products, particularly cheeses, ice cream, and cream, foods fried in animal fat, bacon, egg yolks, salad dressings, mayonnaise, and some sauces. Studies have repeatedly indicated that replacing saturated fats with mono- and polyunsaturated fat lowers LDL-cholesterol, without lowering HDL-cholesterol or increasing triglycerides.

Monounsaturated fat is found in the fats of both plants and animal origin. Recent studies have demonstrated that increasing monounsaturated fat in the diet yielded a reduction in heart-disease risk. Olive oil, canola oil, and peanut oil are the most common examples of fats with large proportions of monounsaturated fats.

Omega-3 fatty acids, preferably from both marine and plant sources, should be included in a cardioprotective diet. Consuming dietary sources of omega-3 fatty acids from fish [**two 4oz servings** of fish per week (preferably fatty fish such as mackerel, salmon, herring, trout, sardines, or tuna)] and plant-based foods of **1.5g alpha-linoleic acids** (1 Tbsp canola or walnut oil, ½ Tbsp ground flax seed, 1 tsp flaxseed oil) are recommended. Increased intake of omega-3 fatty acids is associated with a decreased risk of death from cardiac events. However, in some people, very high intakes of omega-3 fatty acids may reduce the blood clotting ability of the blood. Also fish oil supplements are high in calories and consumers have complained of smelling like fish after taking supplements. Therefore, eating fish in moderation is the recommended approach for obtaining adequate amounts of omega-3 fatty acids.

Trans fats, although technically unsaturated, have a structural shape similar to that of saturated fats. While some trans fats occur naturally in meat and dairy products and certain plants, most are created by food manufacturers when they add hydrogen to unsaturated fats like corn oil, to make vegetable shortenings and oil. Evidence against trans fats continues to mount. Studies have shown that, like saturated fats, trans fats appear to reduce blood levels of HDL cholesterol and increase levels of LDL cholesterol. Therefore, trans-fatty acids consumption should be **as low as possible**.

Other Dietary and Lifestyle Factors to Consider:

- ♥ Because of their beneficial fatty acids, **five ounces of nuts** (walnuts, almonds, peanuts, macadamia, pistachios, and pecans) **per week** incorporated into a dietary pattern low in saturated fat and cholesterol can reduce total cholesterol by 4-21% and LDL by 6-29%. However, nuts contain a high level of calories and

should only be included if weight can be maintained. Brazil nuts are higher in saturated fat and should not be consumed regularly as part of a cardioprotective diet.

- ♥ An intake of foods containing **25-30 grams of fiber** per day, with special emphasis on **soluble fiber sources (7-13 grams)**, is associated with a decrease risk of high blood pressure, insulin resistance, and stroke. Foods rich in soluble fiber include: fruits, vegetables and whole grains, especially high-fiber cereals, oatmeal, beans and prunes. Furthermore, diets high in total and soluble fiber, as part of a heart healthy diet can further reduce total cholesterol by 2-3% and LDL up to 7%.
- ♥ **Plant sterol and stanol ester enriched foods** eaten two or three times per day (for a total of two or three grams per day) may further lower total cholesterol by 4-11% and LDL by 7-15%. For maximal effectiveness, foods containing plant sterols and stanols (spreads, juices, yogurts) should be eaten with other foods. However, common sources of plant sterols/stanols, and can contain considerable calories. To prevent weight gain, substitute stanol- and sterol-enriched foods for other foods. Also, these foods tend to be expensive. Plant stanols and sterols are effective in people taking statin drugs.
- ♥ **Soy** (e.g., isolated soy protein, textured soy, tofu) may be included as part of a cardioprotective diet. Consuming 26-50g of soy protein per day in place of animal protein *may* reduce total cholesterol by up to 20% and LDL by 4-24%. However, soy protein may not be recommended in some individuals with breast cancer. Individuals with breast cancer or at high risk for breast cancer should speak with their physician. Also, levels greater than 50g of soy protein with isoflavones may cause GI distress in some individuals.
- ♥ Moderately intense **physical activity** reduces the risk of CVD events, decreases LDL and triglycerides, and increases HDL. Activities such as brisk walking, swimming laps, bicycling) should be incorporated for at least 30 minutes most, if not all, days of the week. However, you may have to start slowly and increase gradually to achieve goals. Consultation with your physician prior to beginning an exercise program is recommended.

ADVICE FOR TODAY:

- ♥ Limit your intake of dietary cholesterol to **less than 300 mg** daily if your blood cholesterol levels fall within the desirable/optimum level. If you already have high cholesterol, limit your intake of cholesterol to **200 mg or less** per day.
- ♥ Limit fat calories to 25-35% of your daily total and saturated fat/trans fats to **less than 7% of total calories**. The following table converts this recommended guideline into the actual amount of total and saturated/trans fat you should limit yourself to daily:

If you eat this many calories...	Keep fat intake within...	
	Total Fat	Saturated/Trans fat
1400	39 – 54 grams	≤ 11 grams
1600	44 – 62 grams	≤ 12 grams
1800	50 – 70 grams	≤ 14 grams
2000	56 – 78 grams	≤ 16 grams
2200	61 – 86 grams	≤ 17 grams
2400	67 – 93 grams	≤ 19 grams
2600	72 – 101 grams	≤ 20 grams
2800	77 – 109 grams	≤ 22 grams

- ♥ Substitute saturated fat with omega-3 fatty acids and monounsaturated fat as often as possible.
- ♥ Read the “Nutrition Facts” panel on food labels. The calories from fat, grams of total and saturated fat, and cholesterol per serving are specified. Scan the ingredients for the word, “hydrogenated,” a giveaway that trans fats are present. With new labeling guidelines, manufacturers are allowed to state that their product is free of trans fatty acids so look for similar statements on food labels. One good rule when choosing fats is “the softer, the better” because liquids are less likely to contain saturated or trans fats.

For more information on fats and your health, surf these websites:

- <http://www.americanheart.org>
- <http://www.nhlbi.nih.gov/health/public/index.htm>

Test Results and Advice Nurse

Please call the nurse for test results and advice: 863-4463

Appointments

Appointments can be made in person or by phone. If you are unable to keep your appointment, please call and cancel. Otherwise you will be charged for the visit.

To schedule or cancel appointments, call: 863-0774

For more information about health care issues, visit the UHS Web site at www.sa.psu.edu/uhs

This publication is available in alternative media on request.

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