



The Low Cholesterol Diet

Purpose: Fat is a major energy source for the body, however, it is not the body's only source of energy and too much fat in the diet can be harmful. Excess fat raises blood cholesterol levels that can contribute to heart attack or stroke. Dietary fats can be saturated or unsaturated. An easy way to remember the difference is that saturated fats solidify or remain solid at room temperature. Unsaturated fats do not; they are liquid at room temperature. To reduce blood cholesterol levels, it is important to limit saturated fats. Saturated fats are found mainly in meats and dairy products made with whole milk. Unsaturated fats are found mostly in plants.

Special Considerations:

1. Limit sugar and alcohol. They provide few nutrients but many calories. Therefore, they contribute to high cholesterol by increasing body weight. An overweight body contains excess fat that is saturated.
2. Certain habits, such as cigarette smoking and a sedentary life, can increase the risk of heart disease. Cigarette smokers should quit. Regular aerobic exercise (at least 20 to 30 minutes, 3 times a week) can lower cholesterol levels and help to prevent the build-up of cholesterol plaque. It can also reduce stress that may cause high blood pressure, another heart disease risk.
3. Fish should be eaten often, 3 or more times per week. Research indicates that certain deep-sea fish -- mackerel, salmon, herring, albacore tuna, lake trout -- contain an oil called Omega-3 fatty acid that may help to lower blood cholesterol. Fish oil supplements are not recommended.
4. Avoid high sodium content in foods. Some patients with high cholesterol also have high blood pressure. Reducing sodium can help to keep blood pressure within normal limits. Table salt is about 1/2 sodium. Sodium is also an ingredient in many commercially processed foods. Common medications such as antacids, laxatives, and cough remedies can contain large amounts of sodium. Read product labels and use products with no more than 33 mg of sodium per serving. Herbs and spices can be used in place of salt to add flavor and variety to meals. Do not use a salt substitute unless the physician has approved it.
5. Increase complex carbohydrates, (pasta, whole grains, and potatoes) in the diet. Like fats, they are an excellent source of energy without the harmful effects fats can have on the body. But, read labels of commercially prepared baked goods, cookies and crackers. These products are notorious for using highly saturated fats such as coconut or palm oils and hydrogenated fats.
6. Eat 20 to 30 grams of dietary fiber every day. Foods such as legumes, oats, barley, brown rice, apples, strawberries, and carrots are good to eat because they contain soluble fiber. Research indicates that soluble fiber helps to lower blood cholesterol levels. Supplements such as psyllium mucilloid (trade names: Konsyl, Metamucil) can lower cholesterol up to 15% when used daily. Oat bran is another soluble fiber that has the same benefit.
7. Choose meat carefully. Grading of meats (Prime, Choice or Good) refers to fat content, with Prime grades having the most fat. Marbling refers to the threads of white fat running through a cut of meat-- the greater the marbling, the more fat. Read labels and avoid any meat product with more than 3 grams of fat per ounce.
8. Eating out can be a challenge. Avoid fast food restaurants; their foods are usually high in fats and sodium. However, many restaurants now understand the need to provide items for clients on fat or cholesterol restricted diets. Their menus often contain words like "heart healthy" or have items marked with the symbol TM. Ask about ingredients and how foods are prepared. Choose foods wisely and ask for smaller portions.

Dietary Item	Step 1 Diet	Step 2 Diet
Total Fat	No more than 30% of total calories	No more than 30% of total calories
Saturated Fat	No more than 1/3 of the total fat calories may be saturated fat	Less than 1/4 of the total fat calories may be saturated in fat
Cholesterol	No more than 300 mg	No more than 200 mg

The Step 1 diet is the first level of treatment for high blood cholesterol in most adults and children over the age of two.

The Step 2 diet is more restrictive, and is used when a person now has or did have any of the following:

- A high blood cholesterol, even after following a Step 1 diet for 6 to 12 weeks
- Evidence of atherosclerosis (fatty deposits in the arteries)
- A heart attack or stroke

Both diets have the following goals:

- Decrease total dietary fat, especially saturated fat
- Decrease dietary cholesterol
- Limit sodium intake
- Increase intake of fiber and complex carbohydrates
- Decrease calories if needed to reach a healthy body weight

Step 1 Diet Daily Cholesterol Intake = 300 mg or less		
Daily Calories	Total Fat (grams)	Total Saturated Fat (grams)
1000	33	11
1200	40	13
1500	50	16
2000	66	22
2200	73	24
2500	83	27
2800	93	31

Step 2 Diet Daily Cholesterol Intake = 200 mg or less		
Daily Calories	Total Fat (grams)	Total Saturated Fat (grams)
1000	33	8
1200	40	10
1500	50	12
2000	66	16
2200	73	18
2500	83	20
2800	93	23

Complex Carbohydrates - (Starches/Breads/Cereals)

Food Items	Choose	Avoid
Baked Goods	Whole grain or enriched breads/rolls; low-fat or homemade muffins, pancakes, waffles, biscuits using polyunsaturated margarine or oil and non-fat milk	Butter or cheese rolls and breads; croutons; commercial biscuits, muffins, pancakes, pastries, sweet rolls, donuts, croissants, popovers
Home Recipes	Use weekly egg allowance or use egg whites and egg substitutes	Store bought mixes with saturated fats including coconut, palm oils and hydrogenated fats
Tortillas	Corn, soft flour made with unsaturated oils	Soft flour made with lard, shortening, hydrogenated fats, coconut and palm oils
Pasta & Rice	Noodles, spaghetti, macaroni, brown rice (preferred), white rice, wild rice	Prepared with whole eggs, cream and cheese sauces; canned or boxed noodle and macaroni dishes; caned spaghetti dishes
Cereals	Cooked or dry (unsweetened preferred), oats and bran, barley	Any with coconut, instant hot cereals, granola
Crackers/Snacks	Unsalted crackers, pretzels, popcorn prepared with air popper or mono/polyunsaturated oil	Salted crackers or snacks; fried snack foods; any snacks or crackers containing saturated fats, coconut or palm oils, hydrogenated or partially hydrogenated fats; cheese crackers or snacks; potato chips, corn chips; tortilla chips; chow mein noodles; commercial buttered popcorn

Fruits and Vegetables

Food Items	Choose	Avoid
Vegetables	Fresh, frozen, or low-sodium canned; low-sodium tomato and vegetable juices	Regular tomato sauce and puree; spaghetti sauce; creamed, breaded, or deep-fat fried vegetables; vegetables in sauces; regular tomato and vegetable juices
Fruit	Fresh, unsweetened dried fruits; canned or frozen packed in water, own juice or light syrup preferred; all fruit juices (unsweetened preferred)	Canned or frozen packed in heavy syrup, sweetened dried fruits, coconut, fried fruit snack chips

Miscellaneous

Food Items	Choose	Avoid
Desserts	Homemade baked goods made with unsaturated oils or margarine, skim or 1 % milk, and egg substitute or egg whites; gelatin, angel food cake; ginger snaps; fruit ice, fruit whips, sorbet, sherbet - lime two 1/2 cup servings per week; low-fat frozen desserts; puddings, custards, or junkets made with non-fat milk and egg allowances	Made with whole milk, cream, butter, chocolate, and egg yolk; commercially prepared cakes, pies, cookies pastries; ice cream, chocolate desserts; frozen cream pies, commercial dessert mixes such as cake and brownie mixes; chocolate; candies made with cream fillings
Beverages	Sparkling or mineral water, seltzer, club soda - unsweetened preferred; coffee; tea; Postum	Tonic, commercially or home softened water, instant cocoa mixes, Dutch processed cocoa
Soups & Sauces	Fat-free, low-salt broth, consome, and bouillon; homemade soup skimmed of fat; cream soup and sauces made with non-fat milk and fat allowance	Soup made with whole milk or cream; broth containing fat; canned soups, dehydrated soup mixes; bouillon not labeled low-sodium; gravy and sauces made with butter, other animal fat, and whole milk
Other	Spices, herbs, pepper, lemon juice, garlic & onion powder, Tabasco, catsup, mustard, vinegar, relishes, jam jelly, marmalade (unsweetened preferred)	Commercially fried foods, pickles, any foods containing items not allowed

Meats and Proteins

Limit total portion of meat, seafood, poultry, egg, cheese, peanut butter, and tofu to 6 oz daily for Step 1 Diet; limit to 5 oz daily for Step 2 Diet

Food Items	Choose	Avoid
Meats	Trim visible fat, limit to one 3 oz serving per meat, five meals/week, beef (round sirloin, chuck, loin super lean hamburger/ground beef); lamb (leg, arm, loin); pork (tenderloin, fresh leg, shoulder arm, picnic); veal (all trimmed cuts except commercially ground)	Corned beef, regular pastrami, mutton, ham, Canadian bacon, luncheon meats, short ribs, spareribs, bacon, sausage, frankfurters, canned meats, scrapple, sandwich spreads
Poultry	Chicken and turkey with skin removed.	Self-basted poultry; processed poultry products such as turkey franks, chicken franks, turkey bologna
Eggs	Egg whites and low cholesterol egg substitutes; Step 1 limit 4 egg yolks per week; Step 2 limit one egg yolk per week	Step 1: more than 4 egg yolks per week Step 2: more than 1 egg yolk per week *includes yolks in cooked or prepared foods
Organ Meats	Liver for Step 1, limit to one 3 oz to 4 oz serving per week in place of one whole egg	Liver for Step 2, brain, kidney, heart, tripe, sweetbreads, chitlins (pig intestines), gizzards, pork maw (stomach), all other organ meats
Seafood	Swordfish, mackerel, albacore tuna, salmon, walleye, pollack, blue; Step 1: shrimp, eel, oysters, squid limited to one serving per week	Caviar, roe, anchovy for Step 1 and Step 2; No shrimp, eel, oysters, squid for Step 2
Cheese	Step 1: skim or part skim milk cheese: mozzarella, ricotta, bakers, farmers, hoop, low-fat (1%) cottage cheese, and opt cheese; special low-fat/low cholesterol cheeses. Step 2: low-fat (1%) cottage cheese, pot cheese, part skim ricotta, Weight Watchers, Swiss	Cream cheese; processed cheese and cheese spreads; all other cheeses
Wild Game	Elk, deer, pheasant, rabbit, wild duck, squirrel	Domestic duck and goose
Beans	Dried beans, peas, lentils; tofu; peanut butter - limit to 2 Tbsp a day	Regular canned peas, beans, lentils
Milk	Skim, non-fat (fluid, powdered, evaporated, condensed), buttermilk, lactose-reduced, and sweet acidophilus made from skim milk	Any milk product made with whole or 2% milk, chocolate milk, milkshakes, eggnog, coconut milk
Yogurt	Made from skim or non-fat milk	Made from whole milk or custard style
Creamers	Only those containing polyunsaturated oils	Any containing coconut or palm oils; whipped, sour, light, heavy, half & half creams

Fats

Although fats in nuts, seeds, and avocado are most unsaturated, they are very high in calories and should be limited.

Food Items	Choose	Avoid
Polyunsaturated Fats	Sunflower, safflower, corn, soybean, cottonseed, sesame oils; Monounsaturated Fats - canola, olive, peanut oils	Butter, lard, beef tallow, salt pork, bacon, bacon drippings, him hock, animal fat, shortening, suet, chocolate, cocoa butter, coconut, coconut oil, palm and palm kernel oil, hydrogenated fats
Margarine	Made with unsaturated fats, with liquid oil the first ingredient; tub margarine preferred over stick	Made with saturated fat or hardened (hydrogenated) vegetable oil
Salad Dressings	Made with unsaturated oils	Made with saturated oil and/or egg yolk
Seeds and Nuts	Unsalted pumpkin seeds, sesame seeds, sunflower seeds, any nuts not on the avoid list	Cashews, macadamia, pistachio, Brazil, salted seeds & nuts, coconut