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Harriet Kohn

Linda S. Boeckner

University of Nebraska--Lincoln, lboeckner1@unl.edu

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Published by Cooperative Extension, Institute of Agriculture and Natural Resources,
University of Nebraska-Lincoln

Cholesterol in Your Blood

Harriet Kohn, M.S., R.D., Extension Nutrition Specialist
Linda Boeckner, Ph.D., R.D., Extension Nutrition Specialist

Cholesterol is part of every animal cell. Your body uses it in many ways such as making cell walls and in creating hormones. However, major scientific studies have shown that people with high levels of cholesterol in the blood have more chance of developing coronary heart disease than people with lower levels of cholesterol. The chances of developing heart disease increase in proportion to the amount of cholesterol in the blood.

As cholesterol circulates in the blood it is deposited in the inner walls of the arteries. Over the years, scar tissue and other debris build up as more cholesterol is deposited. The arteries become narrower, much as old water pipes build up scaly mineral deposits. This process is known as atherosclerosis. When a blood blockage forms in the arteries around the heart, the result is a heart attack. A blood blockage in the brain results in a stroke.

Since cholesterol is a fat-like substance it will not mix with water. The body wraps it in protein packages to carry it in the blood. These protein packages are called "lipoproteins." The two lipoproteins that are the primary carriers of cholesterol are "high density" (HDL) and "low density" (LDL) lipoproteins. LDLs contain the greatest amount of cholesterol and may be responsible for depositing cholesterol on artery walls. HDLs, the "good cholesterol carriers," are believed to take cholesterol away from cells and transport it back to the liver for processing or removal from the body.

Various factors increase blood cholesterol levels. These include high saturated fatty acids and cholesterol from the foods we eat as well as smoking, being overweight and lack of exercise. Polyunsaturated and monounsaturated fatty acids tend to lower blood cholesterol levels.

Approximately 37 percent of our food energy comes from fat. Many authorities suggest lowering fat to 30 percent of calories with approximately 10 percent each from saturated, polyunsaturated and monounsaturated fatty acids. Dietary cholesterol intake should be kept to an average of 300 mg per day.

Foods from animal sources contain cholesterol and are major sources of saturated fatty acids. Vegetable sources of fat contain no cholesterol, are generally low in saturated fatty acids, and rich in polyunsaturated or monounsaturated fatty acids. The exceptions are the tropical oils such as palm kernel

and coconut oils which have no cholesterol but contain higher levels of saturated fatty acids.

People who reduce high levels of blood cholesterol also reduce the risk of having a heart attack or stroke. Three routes to lowering blood cholesterol are:

1. Eat foods that contain less total fat, saturated fatty acids and cholesterol.
2. Be more active; exercise regularly.
3. Maintain normal weight; if you are overweight, lose weight.

To help with food choices remember:

- Cholesterol is found only in animal products.
- Saturated fatty acids are found mostly in animal fats and the tropical vegetable oils such as coconut and palm kernel.
- Vegetables, fruits, cereal grains and starches contain no cholesterol and little or no fat.
- Vegetable oils such as corn, sunflower, soybean, canola or olive oils contain mostly polyunsaturated or monounsaturated fatty acids.

Practical steps to cut down on cholesterol and fat consumption include:

- Serve moderate portions of meat using lean meats.
- Trim fat from meats before cooking, or drain after cooking.
- Remove skin from chicken before cooking.
- Use cooking methods other than frying, i.e., broil, bake, steam or stir-fry food.
- Eat less sausage, bacon and processed luncheon meats.
- Choose more vegetables, fruits, cereal grains and starches.
- Use skim or lowfat milk, cheese, yogurt and dairy desserts such as sherbet or ice milk.
- Limit egg yolks to four or less per week. Use two egg whites instead of one whole egg in recipes.
- Read labels on foods for fat content.
- Use fat-rich spreads, sauces, dressings, gravies, butter and margarine less often.
- Eat less fat-rich desserts.

Fat and Cholesterol Content of Selected Foods

<i>Food</i>	<i>Serving Size</i>	<i>Total fat (g)</i>	<i>Sat. fat (g)</i>	<i>Mono. fat (g)</i>	<i>Poly. fat (g)</i>	<i>Cholest. (mg)</i>
Beef, lean	3 oz.	7.9	3.0	3.3	0.3	73
Beef Liver, braised	3 oz.	4.2	1.6	0.6	0.9	331
Chicken, breast, roasted	3 oz.	3.0	0.9	1.1	0.6	72
Chicken, leg, roasted	3 oz.	7.2	2.0	2.6	1.7	79
Egg Yolk	1 large	5.1	1.6	1.9	0.7	213
Fish, cod	3 oz.	0.7	0.1	0.1	0.3	40
Lobster, boiled	3 oz.	0.5	0.1	0.1	0.1	61
Pork, lean	3 oz.	11.1	3.8	5.0	1.3	79
Shrimp, boiled	3 oz.	0.9	0.2	0.2	0.4	166

Turkey, dark, roasted	3 oz.	6.1	2.1	1.4	1.8	73
Turkey, light, roasted	3 oz.	2.7	0.9	0.5	0.7	59
Cheese, cheddar	1 oz.	9.4	6.0	2.7	0.3	30
Ice cream, regular	1/2 cup	7.2	4.5	2.1	0.3	30
Milk, lowfat 2%	1 cup	4.7	2.9	1.4	0.2	18
Milk, skim	1 cup	0.4	0.3	0.1	neg	4
Milk, whole	1 cup	8.2	5.1	2.4	0.3	33
Fruits/Vegetables/Grains	1/2-1 cup	neg	neg	neg	neg	0
Butter	1 Tbsp	11.5	7.2	3.3	0.4	31
Canola Oil	1 Tbsp	13.6	0.9	7.6	4.5	0
Corn Oil	1 Tbsp	13.6	1.7	3.3	8.0	0
Margarine, soft	1 Tbsp	11.4	1.8	3.9	4.8	0
Shortening, hydrogenated	1 Tbsp	12.8	3.2	5.7	3.3	0

Reference: Composition of Foods, Agriculture Handbook No 8 series, USDA

File NF63 under FOODS AND NUTRITION
C-1c, Nutrition-Nutritive Value of Foods
Issued March 1992

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Elbert C. Dickey, Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.

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