

FAT- & CHOLESTEROL-RESTRICTED DIET

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PURPOSE:

The low fat/low cholesterol diets are designed to reduce serum lipids for the treatment and prevention of coronary heart disease (CHD). It is believed, and recent studies support the idea, that lowering the levels of cholesterol in the blood will prevent the formation of fatty plaques found in the thickening of the artery walls, known as atherosclerosis.

DESCRIPTION:

Foods high in total fat, saturated fat and cholesterol are controlled. Total cholesterol intake is restricted. Limited amounts of monounsaturated and polyunsaturated fats are used as replacements for saturated fats. Calories need to be adjusted to achieve or maintain desired body weight. Lean meat, fish, skinless poultry, non- or lowfat dairy products are included. Fatty meat, organ meats, egg yolks and cheese are limited. Foods high in complex carbohydrates and fiber such as fruits, vegetables, whole grain products and legumes are emphasized.

BASIC INFORMATION:

The National Cholesterol Education Program (NCEP) Guidelines indicate that a serum total cholesterol should be measured in all adults over the age of 20 at least once every 5 years. Levels below 200 mg/dL are classified as "desirable blood cholesterol," those 200-239 mg/dL as "borderline high cholesterol" and those 240 mg/dL as "high blood cholesterol."

Dietary treatment is the primary treatment for elevated serum cholesterol. The goals of therapy are to reduce serum cholesterol to less than 200 mg/dL and Low Density Lipoprotein (LDL) to less than 130 mg/dL for people with other heart disease risk factors and to 160 mg/dL for clients with no other risk factors. Another goal of therapy is to maintain a nutritionally adequate eating pattern.

Diet Therapy of Blood Cholesterol

Nutrient	Recommended Intake
Total Fat	Less than 30% of Total Calories
Saturated Fat	Less than 10% of Total Calories
Polyunsaturated Fat	Up to 10 % of Total Calories
Monounsaturated Fat	10 to 15 % of Total Calories
Carbohydrates	50 to 60% of Total Calories
Protein	10 to 20% of Total Calories
Cholesterol	Less than 300 mg
Total Calories	To achieve and maintain desirable weight

Cholesterol is found only in animal products. Saturated fats are often solid at room temperature and are usually found in animal products, such as meats, poultry, butter, cheese and ice cream. Plant sources of saturated fats include palm oil, palm kernel oil and coconut oil. Monounsaturated fats are found in products, such as olive oil, peanuts, flaxseed oil and canola (rapeseed) oil. Polyunsaturated fats are usually liquid at room temperature and are found in safflower, sunflower, corn, soybean and cottonseed oils.

Along with cholesterol testing, all adults should be evaluated for other CHD risk factors such as hypertension, smoking, diabetes mellitus and obesity.

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FOOD LIST

Milk/Dairy (Limit to 2-4 servings a day)

- **Allowed:** Skim (nonfat) or 1% fat milk (liquid, powdered, evaporated), nonfat or low-fat yogurt, low-fat cottage cheese (2% fat or less), low-fat cheese (labeled 6 grams of fat or less per ounce); nonfat sour cream; nonfat cream cheese.
- **Avoid:** Whole milk (4% fat) (liquid, evaporated, condensed), 2% milk, cream, half and half, imitation milk products, most nondairy creamers, whipped toppings; whole milk yogurt; regular cottage cheese (4% fat); natural cheeses made from whole milk (cheddar, Swiss, blue, Camembert, etc.); cream cheese; goat's milk cheese; sour cream; low fat cream cheese; low fat sour cream. NOTE: If 2% milk is used, decrease added fat by 1 teaspoon for each cup of milk.

Meat/Meat Substitute (Limit to 5 oz a day from animal products; limit 4 egg yolks a week)

- **Allowed:** Dried beans, split peas, lentils, pinto beans cooked without salt; poultry without the skin; fish; tuna packed in water; lean beef (extra lean ground beef, eye of round, sirloin, round tip, round, top round, tenderloin, top loin); lean pork (fresh not cured, tenderloin, leg, shoulder); lamb (arm, leg, loin, rib); shrimp or lobster (limit 3 oz per week); luncheon meats (1 gram fat or less per ounce); egg whites (2 egg whites will equal 1 whole egg); low cholesterol egg substitutes.
- **Avoid:** Fried meats or meat substitutes; fatty cuts of beef, pork or lamb. Goose, duck, liver, kidney, brains, or other organ meats; hot dogs, sausages, bacon; regular luncheon meats; peanut butter; egg yolks.

Breads & Grains (6-11 servings a day)

- **Allowed:** Whole-grain breads (oatmeal, whole wheat, rye, bran, multigrain, etc.); rice; pasta; home-made baked goods low in fat; low fat crackers (ricecakes, popcorn cakes, Rye Krisp, Melba toast, pretzels, breadsticks); hot or cold cereals (with 1 to 2 grams of fat or less per serving).
- **Avoid:** High fat baked goods (pies, cakes, doughnuts, croissants, pastries, muffins, biscuits); high fat crackers; egg noodles; granola type cereals; cereals with more than 2 grams of fat per serving; pasta and rice prepared with cream, butter or cheese sauces.

Vegetables (3-5 servings per day or more)

- **Allowed:** Any fresh, frozen, canned or dried.
- **Avoid:** Vegetables prepared in butter, cream or other sauces; fried vegetables.

Fruits (4 servings per day or more)

- **Allowed:** Any fresh, frozen, canned or dried.
- **Avoid:** Coconuts, avocados, and olives except as allowed under Miscellaneous Foods.

Desserts & Sweets (Limit to control calories)

- **Allowed:** Sugar, jelly, jam, honey, molasses; low-fat frozen desserts (such as sherbet, sorbet, ices, non-fat frozen yogurt, popsicles); angel food cake; low fat cakes and cookies (such as vanilla wafers, graham crackers, ginger snaps); baking cocoa; low-fat candy (such as jelly beans, hard candy).
- **Avoid:** Ice cream; high fat cakes, pies and cookies (most commercially made); chocolate.

Beverages

- **Allowed:** Juices, tea, coffee, decaffeinated coffee, carbonated drinks, most alcoholic beverages.
- **Avoid:** Milkshakes; ice cream floats; eggnog; alcoholic beverages containing milk, cream or coconut.

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FOOD LIST (Continued)

Miscellaneous Foods

• **Allowed:** Limit fat based on total number of calories consumed. Generally no more than 6-8 servings/day of added fat such as margarine and salad dressing should be eaten; overweight, sedentary or elderly individuals may need less. Limit: (1 tsp per serving) Unsaturated vegetable oils (corn, olive, canola, flaxseed, safflower, sesame, soybean, sunflower); margarine or shortening made from unsaturated vegetable oils; mayonnaise and salad dressings made from unsaturated oils (1 Tbsp); diet margarine (2 tsp); avocado (1/8 medium or 2 Tbsp); salt free seeds and nuts (1 Tbsp seeds, 6 almonds, 20 small peanuts); salt free peanut butter (2 tsp).

No Limit: Vegetable oil sprays; fat free salad dressings, fat free sour cream; herbs, spices, pepper, salt substitute with physician approval; mustard; vinegar; lemon and lime juice; cream sauces made with allowed ingredients.

• **Avoid:** Butter; coconut oil; palm oil; palm kernel oil; lard; bacon fat; salad dressings made with egg yolk; fried snack foods (potato chips, cheese curls, tortilla chips); olives; avocados; regular cream sauces.

SAMPLE MENU

Suggested Meal Plan	Suggested Foods and Beverages
BREAKFAST Fruit Juice Cereal Meat/Meat Substitute Bread/Margarine Milk Beverage	Grapefruit half Bran Flakes Low Cholesterol Egg Substitute 2 Slices Whole Wheat Toast, 1 tsp Jelly 1 cup 1% Milk* Coffee
DINNER - NOON OR EVENING MEAL Meat/Meat Substitute Potato/Potato Substitute Vegetable and/or Salad Bread/Margarine Dessert Beverage	3 oz Fat-Free Chicken Breast Fat-Free Sweet Potato Fat-Free Green Beans Whole Wheat Bread, Margarine* Strawberries Iced Tea
SUPPER - EVENING OR NOON MEAL Soup or Juice Meat/Meat Substitute Potato/Substitute Vegetable and/or Salad Bread/Margarine Dessert Milk Beverage	1/2 cup Vegetable Juice 3 oz Fat-Free Meatballs in Tomato Sauce Spaghetti Fat-Free Broccoli Garlic Bread, 1 tsp Margarine* Fruit Sorbet 1 cup 1% Milk* Coffee or Tea

*To further reduce amount of fat in your diet, omit margarine and use skim milk.

Nutrient Analysis

Calories	1781 Kcal	Riboflavin	2.8 mg
Protein	97 gm	Thiamin	2.5 mg
Carbohydrate	255 gm	Folate	589 mcg
Fat	62 gm	Calcium	888 mg
Cholesterol	132 mg	Phosphorus	2111 mg
Dietary Fiber	42 gm	Zinc	20 mg
Vitamin A	2885 IU	Iron	23 mg
Vitamin C	248 mg	Sodium	2803 mg
Niacin	39 mg	Potassium	4579 mg

Adapted from the Arizona Diet Manual (revised 1992)