

Client Name:

Date:

RDN/NDTR:

Email:

Phone:

LDL Cholesterol-Lowering Nutrition Therapy

A heart-healthy diet is recommended to reduce your unhealthy blood cholesterol levels to lower your risk for heart disease. Unhealthy blood cholesterol includes LDL-cholesterol (low-density-lipoprotein cholesterol) and non-HDL cholesterol (non-high-density-lipoprotein cholesterol).

To follow a heart-healthy diet,

- Eat a balanced diet with whole grains, fruits and vegetables, and lean protein sources.
- Achieve and maintain a healthy weight.
- Choose heart-healthy unsaturated fats. Limit your intake of saturated fats.
- Limit refined carbohydrates especially sugar, sweets and sugar-sweetened beverages.
- Eat more plant-based or vegetarian meals using beans and soy foods for protein.
- If you drink alcohol, do so in moderation: one serving per day (women) and two servings per day (men).
 - One serving is equivalent to 12 ounces beer, 5 ounces wine, or 1.5 ounces distilled spirits

Tips

Choose lean protein and low-fat dairy foods to reduce saturated fat intake.

- Saturated fat is usually found in animal-based protein and is associated with certain health risks. Saturated fat is the biggest contributor to raised LDL levels in the diet. Research shows that limiting saturated fat lowers unhealthy cholesterol levels. Eat no more than 5-6% of your total calories each day from saturated fat. Ask your registered dietitian nutritionist (RDN) to help you determine how much saturated fat is right for you.
- There are many foods that do not contain large amounts of saturated fats. Swapping these foods to replace foods high in saturated fats will help you limit the saturated fat you eat and improve your cholesterol levels. You can also try eating more plant-based or vegetarian meals.

Instead of...	Try:
▶ Whole milk, cheese, yogurt, and ice cream	▶ 1% or skim milk, low-fat cheese, non-fat yogurt, and low-fat ice cream
▶ Fatty, marbled beef and pork	▶ Lean beef, pork, or venison
▶ Poultry with skin	▶ Poultry without skin
▶ Butter, stick margarine	▶ Reduced-fat, whipped, or liquid spreads
▶ Coconut oil, palm oil	▶ Liquid vegetable oils: corn, canola, olive, soybean and safflower oils

Choose foods with heart healthy fats.

- Polyunsaturated and monounsaturated fat are unsaturated fats that may help lower your blood cholesterol level when used in place of saturated fat in your diet. Research shows that substituting saturated fats with unsaturated fats is beneficial to cholesterol levels.

Instead of...	Try:
■ Butter, stick margarine, or solid shortening	■ Reduced-fat, whipped, or liquid spreads
■ Beef, pork, or poultry with skin	■ Fish and seafood
■ Chips, crackers, snack foods	■ Raw or unsalted nuts and seeds or nut butters
	■ Hummus with vegetables
	■ Avocado on toast
■ Coconut oil, palm oil	■ Liquid vegetable oils: corn, canola, olive, soybean and safflower oils

Limit refined carbohydrates.

- There are three types of carbohydrates: starches, sugar, and fiber. Some carbohydrates occur naturally in food, like the starches in rice or corn or the sugars in fruits and milk. Refined carbohydrates—foods with high amounts of simple sugars—can raise triglyceride levels. High triglyceride levels are associated with coronary heart disease.
- Some examples of refined carbohydrate foods are table sugar, sweets, and beverages sweetened with added sugar.

Achieve and maintain a healthy weight.

- Talk with your RDN or your doctor about what is a healthy weight for you.
- Set goals to reach and maintain that weight.
- To lose weight, reduce your calorie intake along with increasing your physical activity. A weight loss of 10 to 15 pounds could reduce LDL-cholesterol by 5 milligrams per deciliter.

Participate in physical activity.

- Talk with your health care team to find out what types of physical activity are best for you. Set a plan to get about 30 minutes of exercise on most days.
- To lower your LDL-cholesterol levels and to maintain your weight, 200 to 300 minutes per week of moderate or high-intensity physical activity is recommended.

Additional Nutrition Strategies

Consume foods rich in viscous (soluble) fiber.

- Viscous, or soluble, is found in the walls of plant cells. Viscous fiber is found only in plant-based foods—animal-based foods like meat or dairy products do not contain fiber. In the stomach, viscous fibers absorb water and swell to form a thick, jelly-like mass. This helps to lower your unhealthy cholesterol.
 - Rich sources of viscous fiber include asparagus, Brussels sprouts, sweet potatoes, turnips, apricots, mangoes, oranges, legumes, barley, oats, and oat bran.
- Eat at least 5 to 10 grams of viscous fiber each day. As you increase your fiber intake gradually, also increase the amount of water you drink. This will help prevent constipation.
- If you have difficulty achieving this goal, ask your RDN about fiber laxatives. Choose fiber supplements made with viscous fibers such as psyllium seed husks or methylcellulose to help lower unhealthy cholesterol.

Consume fortified foods or supplements with plant sterols and stanols.

- Plant sterols and stanols are found naturally in vegetable oils, nuts, seeds, and whole grains. To the body, sterols and stanols look like cholesterol and prevent the cholesterol you eat in food from being absorbed into the blood. This lowers unhealthy cholesterol levels.
- Eat 2 grams of plant sterols and stanols each day. Though plant sterols and stanols occur naturally in foods, natural foods only contain small amounts. Research shows that most people consume 200 milligrams to 400 milligrams of plant sterols and stanols in a typical diet. You will need to eat foods fortified with plant sterols and stanols to achieve the goal of 2 grams of plant sterols and stanols each day.
 - If you have been diagnosed with phytosterolemia or sitosterolemia, avoid foods that are fortified with plant sterols and stanols and supplements.
 - Foods rich in plant sterols and stanols include fortified margarine spreads, orange juice, and cereals, and breakfast bars
- Ask your RDN about taking a dietary supplement with plant sterol and stanols.

Foods to Choose or to Limit

Food Group	Foods to Choose	Foods to Limit
Grains	▶ Whole grain breads and cereals, including oats and barley ▶ Pasta, especially whole wheat or other whole grain types ▶ Brown rice, quinoa or wild rice ▶ Whole grain crackers, bread, rolls, pitas	▶ High-fat baked goods, such as doughnuts, biscuits, croissants, pastries, pies, cookies ▶ Snacks made with partially hydrogenated oils, including chips, cheese puffs, snack mixes, regular crackers, butter-flavored popcorn
Protein Foods	▶ Lean cuts of beef and pork (loin, leg, round, extra lean hamburger) ▶ Skinless poultry ▶ Fish ▶ Venison and other wild game ▶ Dried beans and peas ▶ Nuts and nut butters ▶ Seeds and seed butters ▶ Meat alternatives made with soy or textured vegetable protein ▶ Egg whites or egg substitute ▶ Cold cuts made with lean meat or soy protein	▶ Higher-fat cuts of meats (ribs, t-bone steak, regular hamburger) ▶ Bacon ▶ Sausage ▶ Cold cuts, such as salami or bologna ▶ Corned beef ▶ Hot dogs ▶ Organ meats (liver, brains, sweetbreads) ▶ Poultry with skin ▶ Fried meat, poultry, and fish ▶ Whole eggs and egg yolks
Dairy and Dairy Alternatives	▶ Nonfat (skim), low-fat, or 1%-fat milk or buttermilk ▶ Nonfat or low-fat yogurt or cottage cheese ▶ Fat-free and low-fat cheese ▶ Fortified non-dairy milk: almond, cashew, pea, and soy	▶ Whole milk, 2% fat milk ▶ Whole milk yogurt or ice cream ▶ Cream, half-and-half ▶ Cream cheese ▶ Sour cream ▶ Cheese
Vegetables	▶ Fresh, frozen, or canned vegetables without added fat or salt ▶ Avocado	▶ Fried vegetables ▶ Vegetables prepared with butter, cheese, or cream sauce
Fruits	▶ Fresh, frozen, canned, or dried fruit	▶ Fried fruits ▶ Fruits served with butter or cream
Oils	▶ Unsaturated oils (corn, olive, peanut, soy, sunflower, canola) ▶ Soft or liquid margarines and vegetable oil spreads ▶ Salad dressings	▶ Butter, Stick margarine ▶ Shortening ▶ Partially hydrogenated oils ▶ Tropical oils (coconut, palm, palm kernel oils)

Heart-Healthy Sample 1-Day Menu

Meal	Menu
Breakfast	■ 1 cup oatmeal ■ 1 cup blueberries ■ 1 ounce almonds, unsalted ■ 1 cup skim milk ■ 1 cup brewed coffee
Lunch	■ 2 slices whole wheat bread ■ 2 ounces lean turkey breast ■ 1 ounce low-fat Swiss cheese ■ 1 teaspoon mustard ■ 1 sliced tomato ■ 1 lettuce leaf ■ 1 pear ■ 1 cup skim milk
Afternoon Snack	■ 1 ounce trail mix with unsalted nuts, seeds, and raisins
Dinner	■ 3 ounces broiled salmon ■ $\frac{2}{3}$ cup brown rice ■ 1 teaspoon margarine, soft tub ■ $\frac{1}{2}$ cup broccoli, cooked ■ $\frac{1}{2}$ cup carrots, cooked ■ 1 cup tossed salad ■ 1 teaspoon olive oil and vinegar dressing ■ 1 small whole grain roll ■ 1 teaspoon margarine, soft tub ■ 1 cup tea
Evening Snack	■ 1 small banana

Sample Meal Plan

Use this form to create an individualized meal plan.

Meal

Menu

Breakfast

Lunch

Dinner

Snack

Notes: