R CHOLESTERO foods that lower cholesterol NATURALLY Oats Salmon Nuts Garlic Avocado

Elevated Low-Density Lipoprotein (LDL) cholesterol levels increase risk for heart attacks and strokes. By controlling LDL levels, you reduce your risk. Eating heart-healthy can lower LDL levels, decrease your risk for heart disease and other health conditions and can reduce the amount of medication needed to control cholesterol and blood pressure.

Here are some research-supported tips to lower LDL cholesterol in a natural way. If you have questions or are unsure where to start, South Denver Cardiology Associates has Registered Dietitian Nutritionists ready to help. Call 303-744-1065 option 2 to schedule an appointment. If your cholesterol is elevated, seek professional advice; this handout is not meant to replace medical advice.

Eat the Mediterranean Way

A traditional Mediterranean diet is high in fruits, vegetables, beans, whole grains, nuts, fish and olive oil. Dairy products are consumed in low-to-moderate amounts and very little red meat and processed foods are eaten. Alcohol is consumed in moderation. Mediterranean diets can reduce cardiovascular events by 72% and lower all-cause deaths by 60%. For more information and recipe ideas, go to www.oldwayspt.org.

Limit Saturated Fats

Saturated fats increase LDL cholesterol levels, make the lining of blood vessels less flexible and increase insulin resistance. Saturated fats are found in fatty cuts of meats as well as in poultry skin and dark meat chicken. Dairy products such as cheese, butter, whole and 2% milk, cream cheese, sour cream and ice cream are high in saturated fats. Coconut,



palm and palm kernel oils are also high in saturated fats. Read labels and keep saturated fats in your diet to a minimum to see maximal reduction of LDL cholesterol.

Eliminate Trans Fats

Trans fats increase LDL cholesterol levels and increase risk for a heart attack, stroke and type 2 diabetes. Baked goods such as cookies, cakes and pies, shortening, fried foods, margarine, microwave popcorn and refrigerated dough are some foods that commonly contain trans fats. Avoid foods that have "partially hydrogenated" ingredients. Read the ingredients on all packages as processed foods can contain small amounts of partially hydrogenated ingredients but still be described as "trans fat free".

Focus on Fruits and Vegetables

Fruits and vegetables are packed full of fiber, which binds to LDL cholesterol and helps your body to get rid of it. Other nutrients such as fiber, vitamins A and C, magnesium and potassium, help slow LDL oxidation, prevent plaque rupture in the arteries and regulate blood pressure. For more information, check out the DASH diet at www.nhlbi.nih.gov/files/docs/public/heart/new_dash.pdf.

Seek out Soluble Fiber

Soluble fiber helps the body to absorb less fat and cholesterol from foods. It is found in vegetables, fruits, beans, lentils and whole grains (particularly oats and barley). Studies show reduced risk for heart attacks and death from heart disease in people who consume higher amounts of dietary fiber. Eating more soluble fiber may also improve blood glucose levels and aid in weight loss. Aim for 10-12 grams soluble fiber per day. If you want to know more about fiber supplements, refer to the "supplement" section of the handout.

Enjoy Nuts and Nut Butters

Nuts are a staple of traditional Mediterranean diets. Eating five ounces of nuts per week may reduce heart disease risk by 40-50%. Almonds in particular appear to lower cholesterol. Aim for one ounce per day (22 almonds, 35 peanuts, 14 pecan halves) of dry roasted or raw nuts.

Eat Soy Protein Daily

Regular intake of soy protein appears to lower LDL cholesterol levels and prevent heart disease. Eating 25 grams of soy protein daily along with a diet low in saturated fat and cholesterol can reduce heart disease risk. Soy foods such as soy milk, soy yogurt, soybeans, tofu, tempeh, edamame, soy protein smoothies, and soy burgers are all good options. Find soy food recipes at www.eatwell.com.

Toss in Ground Flaxseeds

Flaxseeds can help lower LDL cholesterol levels, and also have anti-inflammatory and antioxidant properties. Flaxseeds should be milled or ground for best absorption. For optimal results, include two tablespoons of ground flaxseed daily. Mix into oatmeal, smoothies, yogurt, pancakes and muffins, or sprinkle on salads.

Portfolio Eating Plan

Want to try an eating plan known to significantly decrease LDL cholesterol? The Portfolio Eating Plan can reduce LDL cholesterol up to 35% and may be as effective as taking a starting dose of a statin medication. The Plan provides guidelines for foods to include in



your diet, with daily recommendations for nuts, fiber, soy protein and plant sterols. More information can be found on many websites, including www.lipidgeneticsclinic.ca.

Supplements

Check with your healthcare provider before using dietary supplements. The supplements listed below can be taken in combination with statin medications. Only add one supplement at a time to see how your body responds before adding another one.

1. Soluble Fiber

Taking supplements such as Metamucil® or Konsyl® can help reduce LDL cholesterol levels. In fact, research shows that taking one teaspoon of Metamucil® three times a day may be as effective as doubling a statin medication. These powder supplements need to be mixed with at least eight fluid ounces of water before consuming. Slowly work toward one teaspoon of psyllium before meals for maximal reduction of LDL cholesterol.

2. Plant Stanols & Sterols

Plant stanols and sterols block the absorption of LDL cholesterol in the intestine. Plant stanols and sterols can lower LDL cholesterol up to 14% when taking 2,000-3,000 mg per day. They work best when taken right before a meal. It is important to take the correct dose of 2,000-3,000 mg per day. Products available include Metagenics UltraMeal Cardio 360, Cholestoff, Moduchol and Benecol spread.

3. Lactobacillus Reuteri NCIMB 30242 Probiotic

The probiotic Lactobacillus Reuteri NCIMB 30242 has been shown to reduce LDL cholesterol and lower inflammation. Cardioviva and Microbiome Plus GI are two available products. Recommended doses are located on the supplement packages.

4. Bergamot

Bergamot, a plant, can reduce LDL almost as effectively as statins. The suggested dose of bergamot is 500-1000 mg standardized extract, taken 20-30 minutes before meals once or twice daily.

5. Berberine

Berberine, a compound found in several plants, can lower LDL cholesterol up to 21%. The suggested dose is 500 mg, twice daily.

6. Artichoke Leaf Extract

Artichoke leaf extract, from the globe artichoke plant, can reduce LDL cholesterol up to 23%. Suggested dose is 1300-1800 mg per day of dry artichoke leaf extract.

If you would like to learn more on how to reduce your cholesterol with diet or reverse heart disease, check out the following websites: www.ornish.com www.drmcdougall.com www.forksoverknives.com www.pritikin.com.



Resources:

Barbara J. Goldman MS, RD, CDE, Sandy Couvillon MS, RD, CNM, Christian Calaguas MPH, RD & Esther Trepal MS, RD. Nutrition in Complementary Care, A Dietetic Practice Group of the American Dietetic Association. Ready References – Cardiovascular Disease (Botanicals, Nutritional Supplements and Functional Foods).

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