



Lower LDL Cholesterol and Triglycerides Through Nutrition

A comprehensive patient guide to foods to restrict, foods to introduce and practical choices for reducing coronary artery disease risk.

Two lipid abnormalities, two dietary priorities. High LDL cholesterol responds most directly to replacing saturated fat with unsaturated fats and adding soluble fiber. High triglycerides often respond most strongly to reducing added sugars, refined carbohydrates, alcohol and excess calorie intake. Many patients have both conditions and benefit from a combined approach.

Why these changes matter

LDL particles contribute to cholesterol deposition and atherosclerotic plaque within coronary and other arteries. Elevated triglycerides frequently reflect increased triglyceride-rich lipoproteins and metabolic dysfunction, which may contribute to coronary risk. Very high triglycerides also increase the risk of acute pancreatitis. Nutrition complements appropriate medication, blood pressure control, physical activity and smoking avoidance.

PART I | When LDL Cholesterol Is High

Main objective: Reduce saturated fat, replace it with unsaturated fats, increase viscous soluble fiber and select more minimally processed plant foods. In an intensive LDL-lowering eating plan, aim for roughly 6% of calories from saturated fat, approximately 13 g daily in a 2,000-calorie diet. Calorie targets should be personalized.

Foods to eliminate or substantially restrict

1. Fatty red meat and processed meats

- Limit ribeye, prime rib, T-bone steak, highly marbled beef, beef short ribs, fatty brisket and fatty ground beef.
- Restrict pork belly, pork ribs, fatty lamb chops, bacon, sausage, salami, pepperoni, hot dogs, bologna and pâté.
- Replace often with fish, lentils, beans, tofu, tempeh or skinless chicken and turkey. Small portions of unprocessed lean meats can fit some meal plans.

2. Full-fat dairy, butter and cream

- Restrict butter, ghee, cream, half-and-half, whole milk, cream-based sauces, high-fat cream cheese, sour cream, ice cream and substantial portions of full-fat cheese.



- Choose skim or low-fat milk, unsweetened fortified soy milk, plain nonfat or low-fat yogurt, nonfat Greek yogurt and reduced-fat dairy where useful.
- Dairy foods are not all physiologically identical; focus on the total saturated fat contributed by the diet.

3. Tropical oils and solid animal fats

- Limit coconut oil, coconut butter, palm kernel oil, palm oil, lard, tallow and saturated-fat-rich shortening.
- Use extra-virgin olive, canola, avocado, soybean, sunflower, safflower or walnut oil instead of solid fats. Replace rather than simply add oil, because oils contain calories.

4. Pastries, desserts and commercial baked goods

- Limit doughnuts, croissants, cookies, brownies, cakes, pastries, butter-rich pie crusts, commercial muffins and snack cakes. These commonly combine saturated fat and added sugar.
- Choose fruit, baked apples with cinnamon, plain oatmeal with berries or unsweetened yogurt and fruit more often.

5. Fried food and fast food

- Limit fried chicken, heavily breaded fried fish, loaded fries, cheeseburgers, pizza topped with processed meats and cream-rich sauces.
- Prefer grilled, roasted, baked, broiled or steamed cooking methods using modest amounts of liquid unsaturated oil.

Foods to Introduce Regularly for LDL Reduction

1. Oats and barley: soluble beta-glucan

Steel-cut oats, rolled oats, oat bran, barley and unsweetened oat cereal provide beta-glucan, a viscous soluble fiber that helps reduce intestinal cholesterol uptake and increases bile acid loss. Roughly 3 g of beta-glucan per day is a useful evidence-based goal; the food amount needed depends on the product. Avoid turning oatmeal into dessert with large amounts of sugar.

2. Beans, peas and lentils

Introduce chickpeas, black beans, kidney beans, white beans, lentils, split peas and soybeans. Their soluble fiber and plant protein make them especially useful replacements for processed meat. Aim for approximately ½ to 1 cup of cooked legumes on most days as tolerated.

3. Nuts and seeds

Walnuts, almonds, pistachios, hazelnuts, pecans, ground flaxseed, chia seeds and pumpkin seeds provide predominantly unsaturated fats, fiber and plant compounds. An ounce of unsalted nuts daily is a practical portion. Ground flaxseed can be sprinkled on yogurt or oatmeal. Use portion control for energy balance.



4. Fish and marine omega-3 sources

Choose salmon, sardines, trout, herring and Atlantic mackerel at least twice weekly as replacements for fatty meat. Fish supports cardiovascular nutrition; EPA and DHA lower triglycerides more directly than LDL. Avoid assuming fish oil will necessarily reduce LDL cholesterol.

5. Extra-virgin olive oil and avocado

Use olive oil in dressings or cooking and avocado in place of cheese, butter or mayonnaise. The benefit comes mainly from substituting these unsaturated fats for saturated fats. Both contain calories, so modest portions remain appropriate.

6. Whole fruits, especially fiber-rich varieties

Choose apples, pears, berries, citrus fruits and plums. Whole fruit retains fiber and promotes satiety; fruit juice does not offer the same benefits. About two servings of whole fruit a day is a practical starting point, adjusted to energy and glycemic needs.

7. Vegetables

Eat varied servings of broccoli, Brussels sprouts, spinach, kale, carrots, cauliflower, cabbage, eggplant, bell peppers and asparagus. Make vegetables a substantial part of lunch and dinner, using both cooked and raw preparations.

8. Soy and other plant proteins

Tofu, tempeh, edamame and unsweetened soy milk offer protein with comparatively little saturated fat. Soy can modestly reduce LDL and, more importantly, can displace fatty meats and full-fat dairy.

Additional LDL-lowering interventions

- Psyllium: viscous soluble fiber can further reduce LDL. A typical effective intake is about 7–10 g of psyllium fiber daily, usually divided. Start gradually, drink adequate water and consider separation from medications.
- Plant sterols or stanols: around 2 g/day from fortified foods or appropriate products may modestly lower LDL. These are not a substitute for prescribed medication and are generally inappropriate in sitosterolemia.
- Whole grains: use oats, barley, bulgur, quinoa and intact whole grains in place of refined grains. Fiber content and the food replaced matter.
- Ground flaxseed and chia: add fiber and plant omega-3 fatty acids, with generally modest direct effects on LDL.
- Coffee preparation: paper-filtered coffee is preferable for patients drinking large quantities of French press, boiled or Turkish coffee because unfiltered coffee contains LDL-raising diterpenes.



Practical LDL substitutions

Instead of	Choose more often
Butter on toast	Olive-oil spread or avocado
Bacon or sausage at breakfast	Oatmeal, fruit or tofu scramble
Fatty steak	Fish, tofu, lentils or skinless poultry
Full-fat cheese	Modest reduced-fat cheese or hummus
Whole milk or heavy cream	Skim milk or unsweetened soy milk
Creamy dressing	Olive oil and vinegar
Ice cream	Fruit with plain low-fat yogurt
White bread	Fiber-rich whole-grain bread
Pastry	Oatmeal topped with berries
Fatty ground beef	Beans, lentils or lean poultry

A one-day LDL-lowering menu

- Breakfast: steel-cut oats, blueberries, ground flaxseed and a small serving of walnuts; unsweetened tea or coffee.
- Lunch: greens with chickpeas, quinoa, tomatoes, cucumbers, lemon and olive oil.
- Dinner: baked salmon, Brussels sprouts and barley with herbs.
- Snacks: an apple or pear, unsalted almonds, raw carrots with hummus or plain low-fat yogurt.

What improvement can be expected?

Consistent saturated-fat replacement, soluble fiber intake and plant-forward eating can materially lower LDL. A structured Portfolio-style diet incorporating viscous fiber, nuts, plant protein and plant sterols can produce larger reductions than isolated substitutions. Results vary with baseline diet, genetics and adherence. Familial hypercholesterolemia, established coronary artery disease or markedly elevated LDL may still require medication to achieve risk-based treatment goals.



PART II | When Triglycerides Are High

Main objective: Reduce added sugars, refined starches, alcohol and excess calorie intake; improve insulin sensitivity and address any indicated weight reduction. For severe elevations, limiting total fat becomes critical, even when the fat source is usually considered heart-healthy.

Triglyceride level changes the diet

Triglycerides	Dietary priority
150–499 mg/dL	Reduce added sugars, refined starch, excess calories, saturated fat and alcohol; emphasize fiber and lean protein.
500–999 mg/dL	Completely avoid alcohol; markedly restrict sugar/refined starch; individualize total fat restriction under clinical supervision.
1,000 mg/dL or higher	Urgent medical evaluation and very-low-fat diet, commonly about 10–15% of calories from fat, plus avoidance of alcohol and added sugar.

Foods to eliminate or substantially restrict

1. Sugar-sweetened drinks

- Avoid regular soda, sweetened iced tea, lemonade, fruit punch, sweetened energy or sports drinks, sugary coffee beverages, bottled sweetened smoothies and large servings of juice.
- Choose plain water, unsweetened sparkling water, unsweetened tea, coffee without sugar and water flavored with lemon, cucumber or mint.

2. Refined carbohydrates and processed starches

- Reduce white bread, refined-flour bagels, white rice, large portions of regular pasta, refined cereals, sweetened instant oatmeal, refined crackers, pretzels, pancakes, waffles and oversized potato portions.
- Prefer steel-cut oats, barley, modest portions of quinoa or brown rice, high-fiber whole-grain bread and legumes. Portion size and total carbohydrate matter even when a product is whole grain.

3. Candy, desserts and concentrated sweeteners

- Restrict candy, cakes, cookies, pastries, sweetened cereals, syrup, sugary protein bars, jam and large amounts of ice cream or sweetened frozen yogurt.
- Honey, maple syrup and agave remain concentrated sugars despite being labeled natural. Use whole fruit, cinnamon, plain yogurt and unsweetened options more often.



4. Alcohol

Alcohol can substantially increase hepatic triglyceride production, and beer, wine and spirits may all contribute. Minimize alcohol with persistent moderate hypertriglyceridemia and avoid alcohol entirely at triglycerides ≥ 500 mg/dL, particularly $\geq 1,000$ mg/dL. Individuals at risk of alcohol withdrawal need medical guidance before suddenly stopping.

5. Very large portions of carbohydrate

Large rice or pasta bowls, multiple bread servings, large potato portions, multiple bananas blended into smoothies, dried fruit and oversized cereal bowls can increase total carbohydrate exposure. Distribute carbohydrate reasonably through the day, especially with insulin resistance or diabetes.

6. Saturated fats and high-fat prepared foods

Limit fatty meats, bacon, sausage, butter, cream, full-fat cheese, coconut oil and fried fast foods. For triglycerides below 500 mg/dL, replacing saturated fat with moderate portions of unsaturated fat is generally appropriate. With severe triglyceride elevation, total fat restriction may be needed.

Foods to Introduce Regularly for Triglyceride Reduction

1. Fiber-rich whole fruit

Choose berries, apples, pears, citrus, kiwi and peaches instead of fruit juice or dried fruit. Moderate portions of whole fruit are usually appropriate; fruit does not need to be routinely eliminated.

2. Fish supplying EPA and DHA

Salmon, trout, sardines, herring and mackerel are useful for general cardiovascular nutrition. Aim for two servings weekly when total-fat restrictions permit. Food-level intake is not equivalent to prescription-dose omega-3 therapy, and higher-fat fish may need restriction during very-low-fat treatment for severe hypertriglyceridemia.

3. Lean proteins

Skinless poultry, fish, tofu, egg whites and other lean proteins are useful replacements for refined starches and processed meats. Avoid high-saturated-fat ketogenic approaches centered on butter, bacon and fatty meat, particularly when LDL or ApoB is high.

4. High-fiber grains in controlled portions

Oats, barley, quinoa and bulgur offer fiber. Adjust serving sizes to carbohydrate requirements, glucose control and weight goals. Intact grains are generally preferable to refined carbohydrate products.



5. Nonstarchy vegetables

Broccoli, zucchini, cauliflower, leafy greens, peppers, asparagus, mushrooms, cabbage and green beans provide volume with relatively little carbohydrate. Fill approximately half the plate with these vegetables at major meals.

6. Unsaturated fats, when triglycerides are not severe

Olive oil, avocado, nuts and seeds can replace saturated fats and support heart health when triglycerides are moderately elevated. They are high in fat and calories, however, and must be sharply limited when a clinician prescribes a very-low-fat diet.

7. Legumes and plant proteins

Lentils, beans, chickpeas, tofu and soybeans provide fiber and protein. Although legumes contain carbohydrate, they are usually preferable to refined starches. Adjust portion sizes when diabetes or carbohydrate restriction requires it.

Severe Hypertriglyceridemia: Special Safety Guidance

At triglycerides ≥ 500 mg/dL, the clinical plan must consider pancreatitis risk. At $\geq 1,000$ mg/dL, the diet often must be very low in total fat, typically approximately 10–15% of calories, while the patient receives medical assessment and treatment. High-fat foods normally recommended for cardiovascular health, including nuts, avocado, olive oil and fatty fish, may need temporary restriction.

A supervised very-low-fat plan may emphasize egg whites, fat-free dairy, very lean fish, skinless poultry prepared without added oil, nonstarchy vegetables, portion-controlled high-fiber starches and whole fruits. A lipid-focused registered dietitian can help ensure adequate nutrition, essential fatty acids and micronutrients.

Seek urgent medical evaluation for abdominal pain, nausea or vomiting in the setting of markedly elevated triglycerides because acute pancreatitis is possible. Severe elevations may require medication and assessment for diabetes, hypothyroidism, medications or inherited lipid disorders.



Practical triglyceride substitutions

Instead of	Choose more often
Sugary soda or sweet tea	Water, sparkling water or unsweetened tea
Fruit juice	Whole fruit
Sweetened breakfast cereal	Plain oats with berries
Refined bagel	Egg-white scramble and whole-grain toast
Large bowl of white pasta	Smaller whole-grain portion with vegetables
Candy or pastries	Whole fruit or unsweetened yogurt
Beer, wine or cocktails	Unsweetened nonalcoholic drink
Sugary specialty coffee	Unsweetened coffee with low-fat milk
Large white rice portion	Modest barley, quinoa or bean portion
Fatty hamburger	Lean poultry, beans or tofu
Ice cream	Plain nonfat yogurt with berries

A one-day menu for mild to moderate high triglycerides

Important: This menu is not intended for a patient requiring a very-low-fat diet due to severe hypertriglyceridemia.

- Breakfast: egg or egg-white scramble with spinach, tomatoes and mushrooms; one slice of high-fiber toast; unsweetened tea or coffee.
- Lunch: grilled chicken or tofu over greens, cucumbers and peppers with a small portion of lentils and olive oil-vinegar dressing.
- Dinner: baked trout, asparagus, cauliflower and a modest portion of quinoa.
- Snacks: apple, plain nonfat Greek yogurt, raw vegetables or a controlled serving of unsalted nuts.



Weight and activity

For patients with excess body weight, a sustained 5-10% reduction can improve triglycerides and insulin resistance. Aim for at least 150 minutes of moderate aerobic activity weekly, adding resistance exercise when suitable. Weight loss is not indicated for everyone, especially patients at a healthy weight or with an inherited disorder.

PART III | Putting Both Approaches Together

Food issue	High LDL cholesterol	High triglycerides
Top target	Saturated fat replacement	Added sugar, refined starch and alcohol reduction
Butter/fatty meat	Strongly restrict	Restrict; total fat matters if severe
Olive oil	Use instead of butter	Moderate portions if TG <500
Oatmeal	Helpful soluble fiber	Helpful in appropriate portions
Beans/lentils	Strongly encourage	Encourage; adjust portions
Whole fruit	Encourage	Encourage; avoid juice
Nuts	Modest daily serving	Appropriate if TG not severe
Fatty fish	About twice weekly	About twice weekly if not on very-low-fat plan
Refined starches	Replace with whole grains	Especially important to restrict
Sweetened drinks	Minimize	Strongly restrict or eliminate
Alcohol	Limit or avoid	Avoid at TG ≥500
Weight reduction	Useful when indicated	Often particularly useful

Daily and weekly heart-healthy targets

- Saturated fat: around 6% of daily calories for intensive LDL reduction, adjusted to individualized goals.
- Total fiber: approximately 25-38 g/day, with at least 5-10 g/day of soluble fiber if tolerated. Increase gradually.



- Vegetables: at least 2½ cups/day in a balanced dietary pattern.
- Whole fruit: roughly 1½–2 cups/day, adjusted to caloric and glycemic needs.
- Fish: at least two servings weekly, unless restricted in severe hypertriglyceridemia.
- Nuts: about 1 ounce/day when total fat restriction is not required.
- Added sugar: minimize, especially when triglycerides are high.
- Alcohol: avoid in severe hypertriglyceridemia.
- Activity: at least 150 minutes/week of moderate aerobic exercise when medically appropriate.

Long-term coronary disease prevention

Consistency over years matters more than a short-term diet before laboratory testing. Combine a Mediterranean-style, plant-forward eating pattern with individual medication recommendations, blood pressure management, exercise and smoking avoidance. Nutritional treatment should not delay indicated LDL-lowering drugs or therapy for severe triglycerides.

For risk assessment, clinicians may consider LDL-C, non-HDL-C, ApoB, lipoprotein(a), diabetes status, blood pressure, smoking, family history and coronary artery calcium when appropriate. In combined dyslipidemia, LDL-C and ApoB management remain essential even when triglycerides improve.

A repeat lipid panel after approximately 4–12 weeks of sustained dietary or medication changes is often useful to measure response, with earlier follow-up when triglycerides are severely elevated.

Bottom line: The strongest nutritional strategy is not simply “low fat” or “low carbohydrate.” Replace saturated fats with unsaturated fats, emphasize soluble fiber and whole foods, minimize added sugar and refined carbohydrate, avoid alcohol when triglycerides are high and tailor fat restriction to the severity of hypertriglyceridemia.

This handout is general patient education. Individual plans should account for cardiovascular risk, diabetes, kidney disease, medications, nutritional status and the severity of lipid abnormalities.