

LDL Cholesterol and Saturated Fats

Biohacker Report

REPORT CATEGORIES —



NUTRITION



HEART & BLOOD
VESSELS

Sample Client

Report date: 15 January 2026

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DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg



How this works

Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs. The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

5 / 5

Recommendations that are considered effective and generally recommended by experts and medical bodies.

4 / 5

Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.

3 / 5

Recommendations that are considered possibly effective and have many studies supporting them

2 / 5

Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.

1 / 5

Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.

0 / 5

No evidence in humans.

Genotype-specific Evidence

High-quality

Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).

Medium-quality

Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).

Low-quality

Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).

Indirect

A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).

In theory

A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

Cholesterol in the blood is carried by proteins, mainly LDL, HDL, and VLDL. We call cholesterol carried by LDL “bad” cholesterol because it can stick to your blood vessels. This can cause heart problems [\[R\]](#), [\[R\]](#).

Experts agree that eating less saturated and trans fats may help lower LDL cholesterol. This may lower your risk of heart disease [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

However, **replacing saturated fats with processed and sugary foods may not help reduce the risk of heart disease** [\[R\]](#).

To make a meaningful change, replace saturated fats with healthy unsaturated fats [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Fish, walnuts, and seeds are rich in polyunsaturated fats (PUFAs). These fats may be the best replacement for saturated fat [\[R\]](#), [\[R\]](#).

Genetics of LDL Cholesterol and Saturated Fats

The [PPARA](#) gene encodes a protein called PPAR-α (short for peroxisome proliferator-activated receptor alpha). PPAR-α is a key regulator of fat burning by signaling the liver to break down more fat. When you’re fasting and there aren’t enough carbs in your body to burn for energy, PPAR-α helps trigger ketogenesis, the process of burning fat for energy [\[R\]](#), [\[R\]](#).

A study of 161 healthy volunteers associated the ‘TT’ genotype of the [rs135549](#) polymorphism with greater reductions in LDL and total cholesterol after consuming skimmed milk for 12 months [\[R\]](#).

The [FABP2](#) gene encodes a protein called fatty acid binding protein 2 (FABP2 or I-FABP) that is found throughout the whole intestine and may help with the body’s energy balance. FABP2 absorbs and transports long-chain fatty acids, and helps produce triglyceride-rich lipoproteins. It also senses and adjusts how many fat molecules are available for energy production [\[R\]](#), [\[R\]](#).

The best-researched *FABP2* polymorphism is [rs1799883](#), also called Ala54Thr. Its minor ‘T’ allele encodes a protein with increased affinity for long-chain fatty acids, resulting in higher absorption of fatty acids in the intestines. A study of 2148 participants associated this variant with higher LDL cholesterol levels and lower total cholesterol to HDL cholesterol ratios in those eating very high amounts of saturated fats [\[R\]](#), [\[R\]](#).

The [APOC3](#) gene plays an important role in [cholesterol](#) management. It helps make the apo-CIII protein, which slows down the breakdown of triglycerides [\[R\]](#).

A study of 336 healthy volunteers found that people with the ‘TT’ genotype of [rs2854116](#) had 20% higher LDL cholesterol and 13% higher total cholesterol levels if they ate a diet high in saturated fats [\[R\]](#).



Predisposed to typical LDL cholesterol levels in response to saturated fats based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PPARA	rs135549	TT
APOB	rs693	AG
SIDT2	rs2854116	CT
APOB	rs754523	GA
LDLR	rs688	TC
FABP2	rs1799883	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

The [APOB](#) gene encodes [apolipoprotein B](#). Apolipoprotein B (ApoB) is a large protein that helps build three major lipoproteins: LDL, VLDL, and IDL. They are collectively called “bad cholesterol” [\[R, R\]](#).

The best-studied *APOB* polymorphism is [rs693](#), also known as XbaI. Its minor ‘A’ allele may increase APOB activity, leading to higher total cholesterol, LDL cholesterol, VLDL cholesterol, apoB, and triglycerides but lower levels of HDL cholesterol. A study of 553 participants associated this variant with higher total and LDL cholesterol levels in those eating a diet high in saturated fats [\[R, R, R, R, R\]](#).

Another variant of this gene, the ‘G’ allele of [rs754523](#), has been associated with higher fasting LDL cholesterol levels. People with this variant may want to restrict their dietary intake of saturated fats [\[R\]](#).

The [LDLR](#) gene encodes a receptor for LDL cholesterol particles. LDLR proteins are located on the surface of many types of cells, especially in the liver. They pick up LDL cholesterol proteins circulating in the bloodstream and transport them into the cell. Once there, LDL cholesterol is broken down to release cholesterol that is then used by the cell, stored, or removed from the body [\[R\]](#).

The best-researched *LDLR* polymorphism is [rs688](#). Its minor ‘T’ allele may decrease LDLR production and has been associated with higher total and LDL cholesterol levels, especially if combined with a high-fat diet [\[R, R, R\]](#).

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

DOSAGE		DOSAGE	
1	Limit Omega-6 Fatty Acids	2	Dietary EPA
3	Avoid High-Fat Diets	4	Limit Trans Fats
5	Limit Saturated Fat	6	Limit Salt Intake
7	Fish	8	Dietary Oleic Acid
9	Choose Healthy Fats	10	Low-Fat Diet
11	Limit Meat Intake	12	Monounsaturated Fatty Acids (MUFAs)
13	Omega-3 (Fish Oil)	14	Plant Sterols & Stanols
			300 mg
15	Dietary Omega-3 Fatty Acids	16	Canola Oil

1



Limit Omega-6 Fatty Acids

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Reduce your intake of foods high in omega-6 fatty acids, such as processed snacks, fast foods, cakes, fatty meats, and certain vegetable oils like corn, soybean, and sunflower oil. Aim to consume these foods less frequently, perhaps limiting them to once a week or less, and focus on increasing your intake of foods rich in omega-3 fatty acids like fish, walnuts, and flaxseeds to help balance your omega-6 to omega-3 ratio.

Description

Balancing omega-6 and omega-3 fatty acids in the diet by limiting excessive omega-6 intake can help reduce inflammation and lower the risk of chronic diseases. Achieving a healthier ratio of these fatty acids promotes overall cardiovascular and metabolic health.

Omega-6 fatty acids are polyunsaturated fatty acids (PUFAs). Food sources of omega-6s include [\[R\]](#), [\[R\]](#):

- Vegetable oils (e.g., corn, soybean, sunflower, safflower, and cottonseed oils)
- Nuts, especially walnuts
- Seeds (e.g., safflower, sunflower, and pumpkin seeds)

The most highly consumed omega-6 fatty acid is linoleic acid. Linoleic acid is essential, meaning we have to get it from our diets. Our bodies use it to produce other omega-6s such as gamma-linolenic acid (GLA) and arachidonic acid (AA) [\[R\]](#).

How it helps

Limiting omega-6 fatty acids can help improve the overall fatty acid balance in the diet, potentially reducing chronic inflammation associated with elevated LDL cholesterol levels. This may contribute to better cardiovascular health and a lower risk of heart disease.

2



Dietary EPA

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate foods rich in EPA (Eicosapentaenoic acid) into your diet, such as oily fish like salmon, herring, mackerel, and sardines. Aim for at least two servings of these fish per week. If fish isn't a preferred option, consider including EPA supplements after consulting with a healthcare provider.

Description

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA. **EPA and DHA are vital for cognition and mental health** [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal protection, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

Incorporating dietary EPA can help reduce LDL cholesterol levels by improving lipid profiles and enhancing overall cardiovascular health. This fatty acid works to lower triglycerides and promote cholesterol efflux, thereby reducing the risk of atherosclerosis.

3



Avoid High-Fat Diets

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Choose foods low in saturated and trans fats, such as lean meats, fish, nuts, and low-fat dairy. Opt for cooking methods like grilling, steaming, or baking rather than frying. Incorporate this practice into every meal and snack, aiming to consistently maintain a diet low in high fat foods each day.

Description

Reducing the consumption of high-fat foods, especially those rich in unhealthy saturated and trans fats, can lower the risk of heart disease, obesity, and related health issues. Opting for a balanced and heart-healthy diet promotes better cardiovascular health and overall wellness.

How it helps

Avoiding high-fat diets reduces the intake of saturated and trans fats, which contribute to increased LDL cholesterol levels. This, in turn, helps lower the risk of heart disease and improves overall cardiovascular health.

4



Limit Trans Fats

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To limit trans fats, read food labels and choose products with 0 grams of trans fat. Avoid fried foods, packaged snacks, baked goods, and fast foods, which are common sources of trans fats. Aim to eliminate trans fats from your diet completely.

Description

Limiting trans fat intake is vital for heart health and reducing the risk of cardiovascular diseases. Avoiding foods high in trans fats and opting for healthier alternatives promotes better cardiovascular well-being.

Based on their structure, the fats in our diet can be broadly divided into *saturated* and *unsaturated* fat. Trans fat is a type of unsaturated fat [\[R, R, R\]](#).

In large amounts, trans fat and saturated fat may have a negative impact on your heart. Processed foods and animal products like red meat and dairy are rich in these fats [\[R, R, R\]](#).

How it helps

Limiting trans fats helps lower LDL cholesterol levels by reducing the intake of harmful fats that contribute to its accumulation. This dietary adjustment enhances heart health and significantly decreases the risk of cardiovascular diseases.

5



Limit Saturated Fat

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Reduce your intake of saturated fats by choosing lean cuts of meat, opting for low-fat or fat-free dairy products, and using cooking oils high in unsaturated fats (like olive or canola oil) instead of butter or lard. Aim to keep saturated fat to less than 10% of your total daily calories. For someone consuming 2000 calories a day, this means 20 grams or less of saturated fat per day.

Description

Limiting saturated fat intake is crucial for managing cholesterol levels and reducing the risk of heart disease. Choosing lean protein sources and incorporating unsaturated fats into the diet supports cardiovascular health and overall well-being.

How it helps

Limiting saturated fat intake helps lower LDL cholesterol levels by reducing its synthesis in the liver and promoting healthier lipid profiles, thus decreasing the risk of atherosclerosis and heart disease.

6



Limit Salt Intake

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Reduce your daily salt intake to less than 2,300 milligrams (mg), equivalent to about one teaspoon of table salt. This includes all salt consumed, whether added during cooking, at the table, or present in processed and ready-to-eat foods.

Description

Limiting salt intake involves lowering the amount of sodium in the diet, which can help lower blood pressure and reduce the risk of heart disease. It often involves avoiding processed and other high-sodium foods such as cured meats, soups and sauces, and various pickled foods.

Your body needs a certain amount of sodium to function. For example, it helps support your blood pressure. This sodium usually comes from [salt](#). However, eating too much salt is linked to an increased risk of stroke and heart disease [\[R\]](#), [\[R\]](#).

Foods higher in salt include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Prepared soups, broths, gravies, and sauces
- Fermented or pickled foods (such as pickles, soy sauce, olives, and [capers](#))
- Cured meats and sausages (such as bacon, salt pork, and salami)
- Cheese (such as Roquefort and Parmesan)

Try to limit your daily intake to 1 teaspoon of salt (2,400 mg of sodium) [\[R\]](#).

How it helps

Limiting salt intake helps manage blood pressure, which is crucial for individuals with elevated LDL cholesterol, as hypertension can exacerbate cardiovascular risks. By controlling sodium levels, the body can maintain a healthier blood vessel function, indirectly supporting overall heart health.

7



Fish

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate two servings of fish into your diet each week, focusing on oily fish like salmon, mackerel, or sardines for their high omega-3 fatty acid content. Each serving should be about 3.5 ounces cooked, or about ¾ cup of flaked fish.

Description

Fish, particularly fatty fish like salmon and mackerel, is an excellent source of omega-3 fatty acids, which support cardiovascular health, brain function, and inflammation management. Regular consumption of fish can promote heart health and overall well-being.

Fish is a great source of [omega-3s](#), protein, and other essential nutrients. Omega-3s from fish (EPA and DHA) are some of the healthiest fats we can eat. They help reduce inflammation and **protect the heart, brain, and eyes** [\[R, R, R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal protection, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don’t eat fish regularly [\[R\]](#).

How it helps

Fatty fish is rich in omega-3 fatty acids, which have been shown to reduce LDL cholesterol levels by improving lipid profiles and decreasing triglyceride levels. This contributes to overall cardiovascular health and a lower risk of heart disease.

8



Dietary Oleic Acid

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Increase your intake of foods rich in oleic acid, such as olive oil, avocados, and almonds. Aim to incorporate these foods into your daily diet, using olive oil for cooking or dressings, eating a handful of almonds as a snack, or including half an avocado in your meals.

Description

Oleic acid is a type of fat that your body can use for energy. It's found in many foods, like olive oil, avocados, and some nuts. Consuming food with oleic acid is good for your heart health because it can help lower bad cholesterol and increase good cholesterol levels in your body.

How it helps

Dietary oleic acid helps reduce LDL cholesterol levels by promoting the activity of enzymes that metabolize fats, leading to improved cholesterol ratios and overall cardiovascular health. This mechanism supports better heart function and lowers the risk of heart disease.

9



Choose Healthy Fats

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate sources of unsaturated fats such as olive oil, avocados, nuts, seeds, and fatty fish into your daily diet. Aim for at least two servings of fatty fish per week and use olive oil for cooking and salad dressings. Replace saturated fats found in red meat, butter, and processed foods with these healthier options whenever possible.

Description

Choosing healthy fats, such as those found in avocados, nuts, and fatty fish, can support cardiovascular health, reduce inflammation, and promote overall well-being. A diet balanced in healthy fats can help manage cholesterol levels and reduce the risk of heart disease.

Based on their structure, the fats in our diet can be broadly divided into *saturated* and *unsaturated* fat. Trans fat is a type of unsaturated fat [\[R, R, R\]](#).

In large amounts, trans fat and saturated fat may have a negative impact on your heart and reproductive health. Processed foods and animal products like red meat and dairy are rich in these fats [\[R, R, R, R, R\]](#).

Some types of unsaturated fat can protect your heart and support fertility. **Experts say you should add more unsaturated fats to your diet.** Some good sources include [\[R, R, R\]](#):

- Nuts
- Seeds
- Fish

Unsaturated fats include polyunsaturated fats or PUFAs (omega-3 and omega-6) and monounsaturated fats or MUFAs [\[R, R\]](#).

How it helps

Incorporating healthy fats from sources like avocados, nuts, and fatty fish can effectively lower LDL cholesterol levels by replacing harmful saturated fats, thereby reducing cardiovascular risk and promoting heart health.

10



Low-Fat Diet

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Adopt a diet where less than 30% of your daily calories come from fat. Incorporate plenty of fruits, vegetables, whole grains, and lean proteins. Avoid or significantly limit high-fat foods like fried foods, processed snacks, and fatty meats. Aim for this dietary pattern consistently each day.

Description

Low-fat diets are often recommended for heart health and weight management. They can help reduce the intake of saturated and trans fats, lowering the risk of cardiovascular disease.

A low-fat diet is a diet that provides **30% or less** of the daily energy requirement from fat [\[R\]](#).

This type of diet may be useful for **losing weight, reducing cholesterol levels, and lowering the risk of certain health conditions**, such as [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart disease
- Diabetes
- Certain types of cancer

Low-fat diets prioritize the following foods [\[R\]](#), [\[R\]](#):

- Vegetables and fruits
- Whole grains
- Legumes (e.g., beans, lentils, peas)
- Skinless poultry (e.g., chicken, duck, and turkey)
- Fish and seafood (e.g., salmon, lake trout, tuna, and herring)
- Egg whites
- Low-fat dairy products

How it helps

A low-fat diet helps by significantly reducing the intake of saturated fats, which are known to raise LDL cholesterol levels. By lowering LDL cholesterol, the diet can decrease the risk of cardiovascular diseases associated with high cholesterol levels.

11



Limit Meat Intake

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Substitute red and processed meats with plant-based proteins, such as beans, lentils, and tofu, for at least two meals per week. Gradually increase the number of meat-free meals by incorporating more fruits, vegetables, and whole grains into your diet daily.

Description

Limiting meat intake involves consuming fewer animal-based products, often as part of a plant-based diet. This dietary choice can provide health benefits such as lower cholesterol levels, reduced risk of certain chronic diseases, and a decreased environmental footprint.

Proteins, fats, and carbs are macronutrients. You need these nutrients in large (‘macro’) amounts. They provide your body with the energy it needs to function properly [\[R\]](#).

You should choose high-quality foods that give you the “best” version of each macronutrient. For example, too much saturated fat and protein from certain animal sources may increase the risk of heart disease and infertility [\[R, R, R\]](#).

Consider replacing red meat with other high-protein foods, such as [\[R, R\]](#):

- Eggs
- Fish
- Soy
- Beans

How it helps

Limiting meat intake reduces saturated fat consumption, which is important for lowering LDL cholesterol levels. This dietary change may contribute to improved cardiovascular health and reduced risk of heart disease.

12



Monounsaturated Fatty Acids (MUFAs)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate monounsaturated fatty acids (MUFAs) into your diet by taking a daily supplement such as fish oil or olive oil capsules. Follow the dosage instructions on the product label, which typically suggest one to two capsules daily with meals.

Description

MUFAs are a type of healthy fat found in foods like avocados, olive oil, and nuts. They are known to support heart health by improving cholesterol levels and reducing the risk of cardiovascular disease.

How it helps

Monounsaturated fatty acids (MUFAs) aid in lowering LDL cholesterol while increasing HDL cholesterol, thereby enhancing lipid profiles and reducing the risk of atherosclerosis. This beneficial effect on cholesterol levels supports overall cardiovascular health.

13



Omega-3 (Fish Oil)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 1-2 g of omega-3 (fish oil) supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

2000 mg

Description

Omega-3 fatty acids are essential fats found in fatty fish like salmon, flaxseeds, and walnuts. They are known for their potential cardiovascular and brain health benefits, including reducing the risk of heart disease and supporting cognitive function.

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal protection, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

Omega-3 fatty acids help reduce LDL cholesterol levels by promoting the clearance of triglycerides from the bloodstream and improving overall lipid profiles. This mechanism supports cardiovascular health and mitigates the risk of heart disease.

14



Plant Sterols & Stanols

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Consume a total of 300 mg of plant sterols and stanols per day. This can be achieved by incorporating foods fortified with these compounds, such as certain margarines, orange juice, and yogurt drinks, into your daily diet or by taking a specific supplement that meets this dosage requirement.

TYPICAL STARTING DOSE

300 mg

Description

Plant sterols and stanols are plant compounds found in foods like fruits, vegetables, and whole grains. They are known for their cholesterol-lowering properties and can be beneficial when included in a diet aimed at reducing LDL cholesterol levels and promoting heart health.

Sterols and stanols are compounds in plants that are similar to cholesterol [\[R\]](#), [\[R\]](#).

They are naturally found in foods like **nuts, vegetable oils, and fruits**. However, people usually don’t eat enough of these [\[R\]](#).

Some companies add sterols and stanols to foods like **orange juice and margarine** [\[R\]](#), [\[R\]](#).

How it helps

Plant sterols and stanols inhibit the absorption of cholesterol in the intestines, leading to a reduction in LDL cholesterol levels. This mechanism not only supports cardiovascular health but also plays a significant role in managing hyperlipidemia.

15



Dietary Omega-3 Fatty Acids

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate foods high in omega-3 fatty acids into your diet daily. This includes eating fish such as salmon, mackerel, and sardines at least twice a week. Alternatively, include a tablespoon of flaxseed oil or chia seeds in your daily diet.

Description

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA. **EPA and DHA are vital for mental and heart health** [\[R\]](#), [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal health, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

Dietary omega-3 fatty acids help lower LDL cholesterol levels by improving lipid profiles and reducing inflammation, which together contribute to enhanced cardiovascular health and decreased risk of heart disease.

16



Canola Oil

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate canola oil into your diet as a cooking oil or a salad dressing base. Use it in place of other fats such as butter or margarine when baking, frying, or preparing meals to help lower bad cholesterol levels. Aim for using canola oil in 1-2 meals per day, everyday, for consistent dietary benefits.

Description

Canola oil is a heart-healthy cooking oil rich in unsaturated fats and low in saturated fats. Incorporating canola oil into your diet can help lower cholesterol levels and reduce the risk of cardiovascular disease.

How it helps

Canola oil aids in lowering LDL cholesterol levels due to its high concentration of unsaturated fats while being low in saturated fats. This shift in fat intake can contribute to improved heart health and a reduced risk of cardiovascular disease.