

LDL Cholesterol

DNA Health Report

REPORT CATEGORY —



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

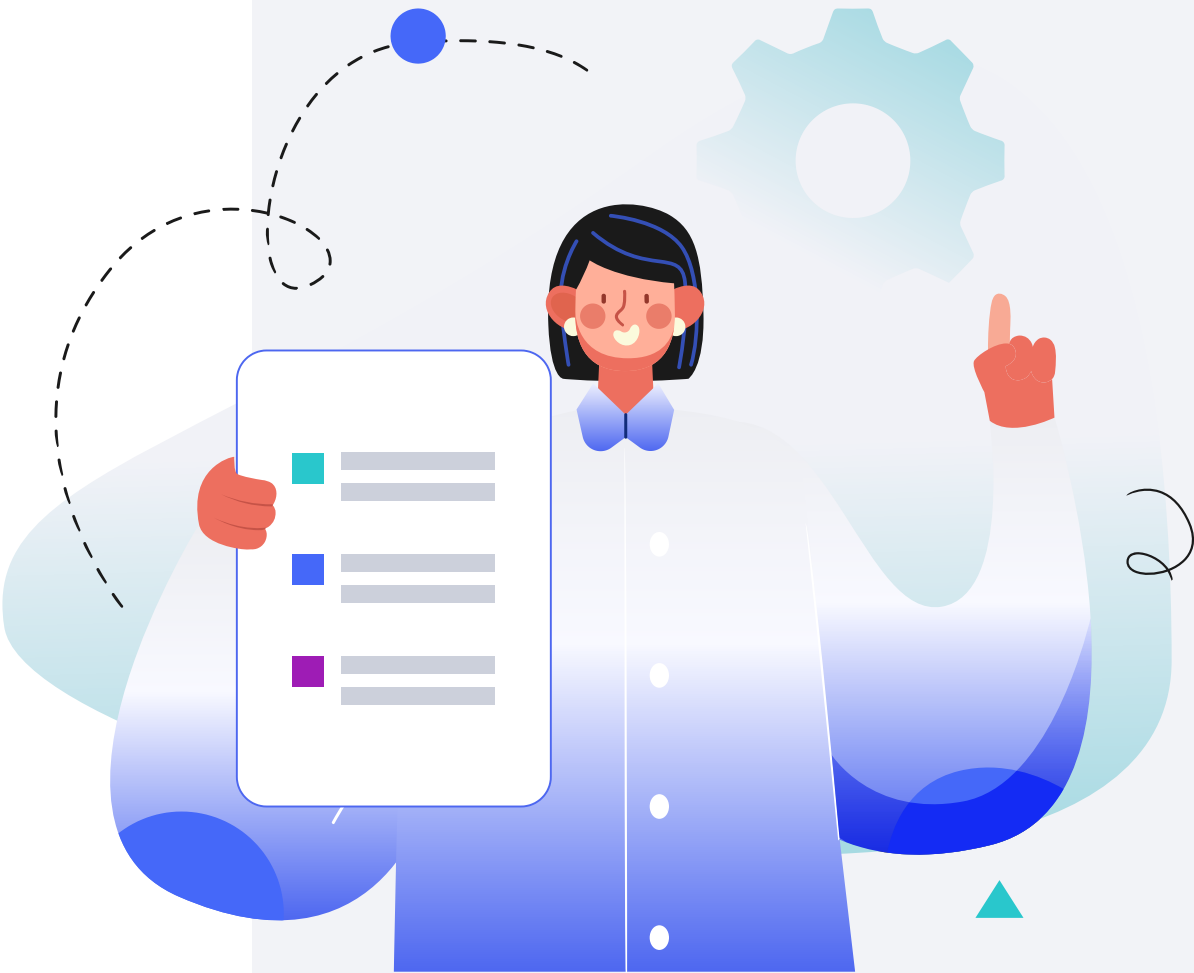
Male

HEIGHT

5ft 5" 165cm

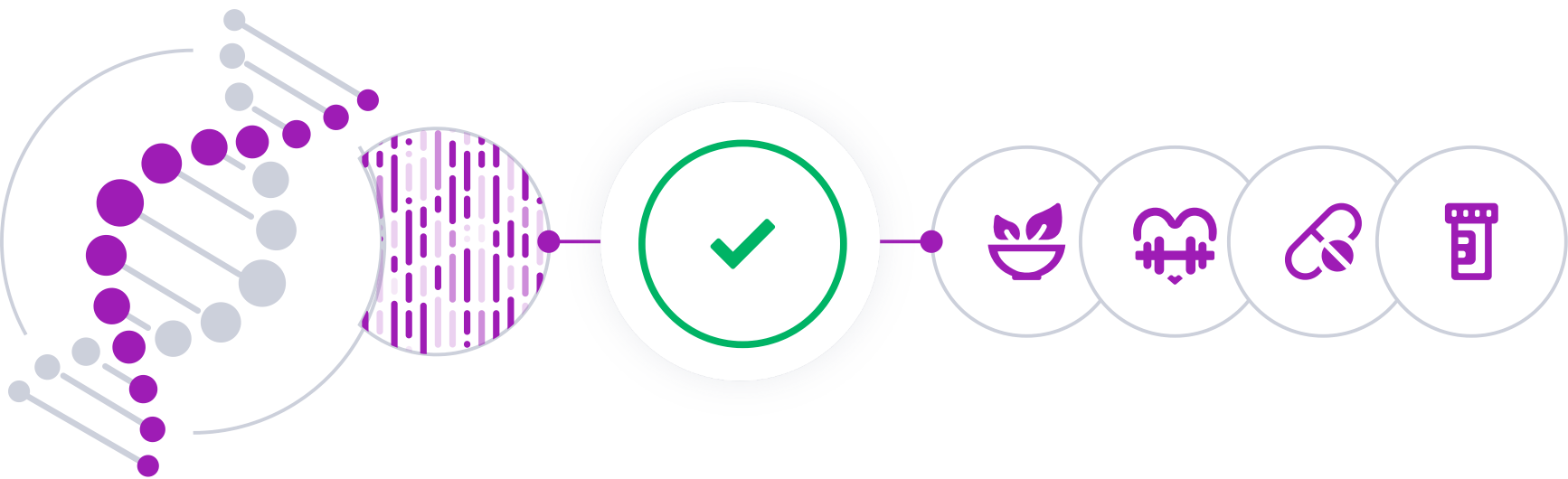
WEIGHT

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.

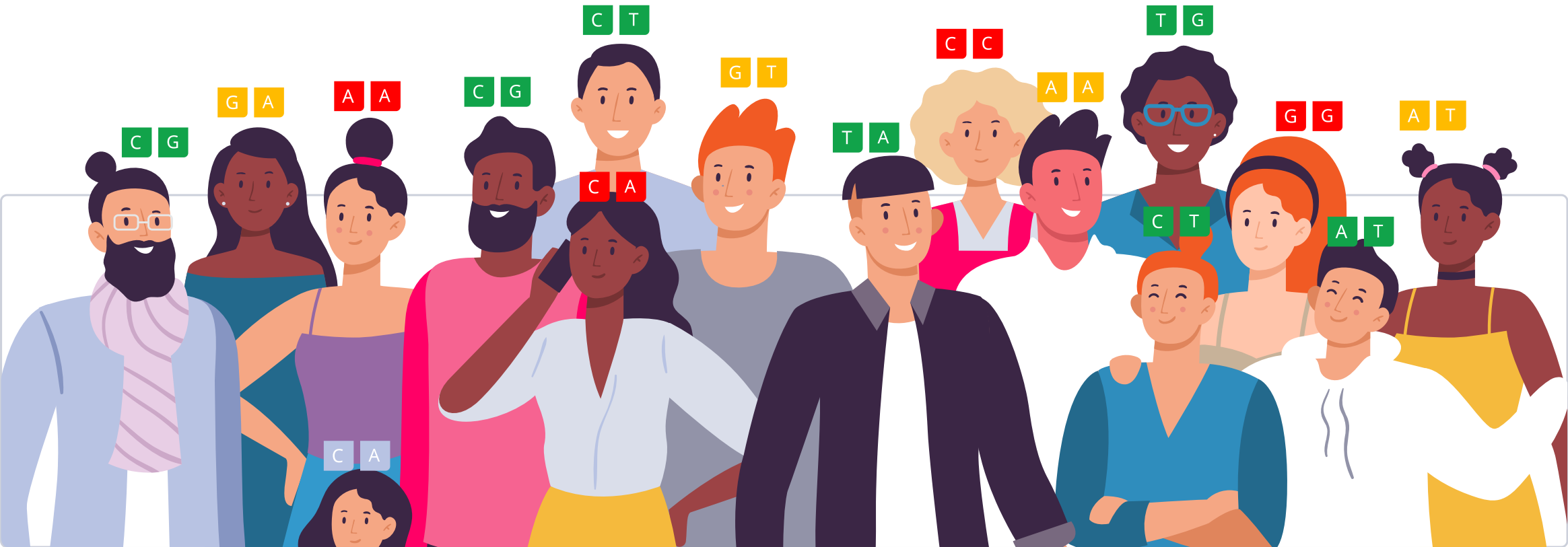


Similarly, our Trait Reports look at how your DNA influences your traits.



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

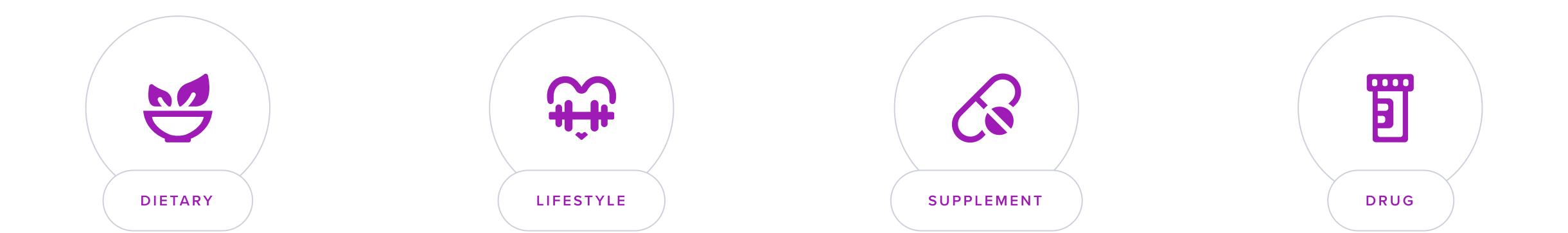
You have 2 risk alleles

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

People think of [cholesterol](#) as being bad, but it’s actually essential. Cholesterol gives shape to all of your cells. Your body also uses it to make vitamin D and some types of hormones [\[R\]](#).

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. On the other hand, HDL cholesterol is “good” cholesterol because it helps your liver get rid of excess cholesterol [\[R\]](#), [\[R\]](#).

High LDL Cholesterol

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 [\[R\]](#), [\[R\]](#).

Some risk factors for high LDL cholesterol include [\[R\]](#), [\[R\]](#):

- A diet high in saturated fat
- Obesity
- Lack of exercise
- Older age
- **Genetics**

If your cholesterol levels rise, your doctor will recommend strategies for lowering them. These may include [\[R\]](#):

- A diet low in saturated fat (such as the Mediterranean diet)
- Exercise
- Losing excess weight
- Cholesterol-lowering medication

How well you respond to these strategies may depend on your genes.

Genetically higher LDL cholesterol levels may play a role in:

- Heart Health [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- High Blood Sugar [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Stroke [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Kidney Health/eGFR/Artery Hardening [\[R\]](#).
- Bone Health [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Joint Pain [\[R\]](#)
- Parkinson’s Disease [\[R\]](#)
- Longevity [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- High Blood Pressure [\[R\]](#)

Up to 65% of differences in cholesterol levels may be attributed to genetics. Genes that may contribute to high cholesterol influence [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Cholesterol production ([HMGCR](#))
- Cholesterol transport ([APOB](#))
- HDL and LDL cholesterol balance ([CETP](#), [LPL](#), [LIPC](#))



TYPICAL LEVELS

Predisposed to typical levels of "bad" cholesterol based on 1,366,051 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
APOE	rs7412	CC
APOE	rs141622900	GG
APOE	rs7254892	GG
PCSK9	rs11591147	GG
APOE	rs12721109	GG
APOE	rs62117160	GG
CEACAM20	rs200628672	GG
BCAM	rs28399654	GG
APOB	rs693	AG
LDLR	rs688	TC
CETP	rs5882	AG
LDLR	rs6511720	GG
NECTIN2	rs365653	AA
USP24	rs72660594	TT
NECTIN2	rs11668327	GG
LDLR	rs72658867	GA
SLCO1B1	rs4149056	TC
SIDT2	rs964184	CC
NLRC5	rs1800775	AA
/	rs12713559	GG
/	rs151135411	GG
APOC4	rs140526515	AA
NECTIN2	rs138914864	CC
NECTIN2	rs117310449	CC

Genetically high testosterone levels may be causally associated with a high risk of increased LDL-cholesterol [R].

GENE	SNP	GENOTYPE
APOE	rs769449	GG
/	rs150401285	AA
NECTIN2	rs144261139	CC
NECTIN2	rs76366838	GG
CLPTM1	rs490243	CC
APOE	rs4420638	AA
ABCG5	rs141828689	CC
CLPTM1	rs12691088	GG
APOB	rs5742904	CC
OLR1	rs12316150	AA
APOE	rs429358	TT
NECTIN2	rs34095326	GG
TOMM40	rs394819	GG
NECTIN2	rs41289512	CC
NECTIN2	rs138607350	TT
SNX8	rs144787122	AA
SLC22A3	rs3918291	TT
APOC1	rs389261	GG
LPA	rs3798220	TT
PVR	rs139267469	CC
LDLR	rs73015030	GG
MAFB	rs2207132	GG
APOC1	rs60049679	GG
BCL3	rs114036675	GG

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

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	Choose Healthy Fats	2	Eat Fiber-Rich Foods
3	Green Tea400 mg	4	Limit Trans Fats
5	Limit Saturated Fat	6	Red Yeast Rice500 mg
7	Niacin Supplements20 mg	8	Tomato
9	Exercise At Least One Hour a Day1 hour	10	Psyllium5 g
11	Plant Sterols & Stanols300 mg	12	Fruits And Vegetables
13	Aerobic Exercise (Cardio)1 hour	14	Glucomannan3 g
15	Aquatic Exercise1 hour	16	Sea Buckthorn
17	Barberry500 mg	18	Walking30 minutes
19	Berries	20	Artichoke Leaf Extract500 mg
21	Safflower Oil	22	Goji Berries
23	Amla	24	Green Coffee Extract400 mg
25	Krill Oil1 g	26	Beta-Glucans
27	Cranberry	28	Barley
29	Berberine500 mg	30	Black Seed Oil2 tsp
31	Lactobacillus Acidophilus10 billion CFU	32	Black Seed (Black Cumin)1000 mg

33	Sunflower Oil		34	Relaxation Techniques	30 minutes
35	Pycnogenol	100 mg	36	Pantethine	600 mg
37	Strength Training	1 hour	38	Avocado	
39	Oat Bran		40	Spirulina	500 mg
41	Cumin	500 mg	42	Bergamot	
43	Chickpeas		44	Probiotics	10 billion
45	Lycopene	10 mg	46	Almonds	
47	Soy		48	L-Carnitine	500 mg
49	Blueberries		50	Inulin	5 g
51	Limit Coffee Intake		52	Whole Grains	
53	Cinnamon	500 mg	54	Hazelnuts	
55	Oats		56	Rice Bran Oil	
57	Plums		58	Mediterranean Diet	
59	Chlorella	3 g	60	Ginger	500 mg
61	Practice Exercise Snacks	1 minutesute	62	Alpha-Lipoic Acid	100 mg
63	Paleo Diet		64	Canola Oil	
65	Resistant Starch	40 g Hi-Maize	66	Fenugreek	500 mg
67	Chitosan	500 mg	68	Lactobacillus Plantarum	10 billion CFU
69	Lactobacillus Reuteri	10 billion CFU	70	Green Tea Extract	250 mg
71	Red Clover	40 mg	72	Synbiotics	

73	Cupping Therapy	15 minutes	74	Apple Pectin And Citrus Pectin	500 mg
75	Myo-inositol	4 g	76	Lactobacillus Paracasei	10 billion CFU
77	Avoid Betaine (TMG) Supplements		78	Gymnema	200 mg
79	Pecans		80	Maintain Optimal Vitamin D Levels	1000 iu
81	Jujube	250 mg	82	Guar Gum	5 g
83	Astaxanthin	12 mg	84	Soy Lecithin	1 g
85	Soy Isoflavones	40 mg	86	Macadamia Nuts	
87	Dill		88	Tyrosol	10 mg
89	Inositol	2 g	90	Mulberry	
91	Hydroxytyrosol And Punicalagin		92	Fasting Mimicking Diet	
93	Hibiscus	250 mg	94	Strawberries	
95	Magnesium	250 mg	96	Kimchi	
97	CLA (Conjugated Linoleic Acid)	3 g	98	Vitamin C	500 mg
99	Orange Juice		100	Probiotic Yogurt	
101	Vitamin D and Calcium		102	Broccoli	
103	Watermelon		104	Kefir	
105	Grapes		106	Cocoa	
107	African Mango Seed Extract	300 mg	108	Flaxseed	2 tbsp
109	Honey		110	Calcium Supplements	1000 mg
111	Perilla Oil	600 mg	112	Pistachios	

113	Garlic Supplement	200 mg	114	Whole-Body Cryotherapy	2 minutes
115	Extra Virgin Olive Oil (EVOO) With Thyme		116	Garlic	
117	Prunes		118	Intermittent Fasting	
119	Tocotrienols	100 mg	120	Yoga	30 minutes
121	Omega-3 (Fish Oil)	2000 mg	122	Low-Carbohydrate Diet	
123	Boron	3 mg	124	Genistein	30 mg
125	Ox Bile (Cholic Acid)	500 mg	126	Raspberries	
127	Kelp	500 mg	128	Whey Protein	25 g
129	Sage Extract	300 mg	130	Fucoidan	300 mg
131	Chromium	200 mcg	132	White Kwao Krua (Pueraria Mirifica)	10 mg
133	Salvia Miltiorrhiza		134	Bananas	
135	Activated Charcoal	500 mg	136	Curcumin Longvida	1 g
137	Black Chokeberry		138	Brazil Nuts	
139	Tart Cherries		140	Rooibos	3 g
141	Chlorophyll	100 mg	142	Ashwagandha	120 mg
143	Brewer's Yeast		144	Lactobacillus Gasseri	10 billion CFU
145	American Ginseng	200 mg	146	White Kidney Bean Extract	500 mg
147	Avoid PFAS Exposure		148	Chinese Rhubarb	500 mg
149	Lactobacillus Fermentum	10 billion CFU	150	Yerba Mate	1 g
151	Avoid Cadmium Exposure		152	Bilberry	

153	Passion Fruit Peel Extract	150 mg	154	Avoid Exposure to Heavy Metals	
155	Coffee Cherry Extract	100 mg	156	Hydrogen Water	
157	Glutathione supplements		158	Tai Chi	1 hour
159	Rutin		160	Walking Meditation	30 minutes
161	Stair Climbing	10 minutes	162	Bhringaraj (Eclipta Alba)	500 mg
163	Apples		164	Nattokinase and Red Yeast Rice	
165	Grapefruit Pectin	5 g	166	Pyrroloquinoline Quinone (PQQ)	20 mg
167	Theaflavins		168	Bacillus Coagulans	
169	Chamomile	300 mg	170	Rose Hip	500 mg
171	Royal Jelly	300 mg	172	Onion	
173	Eleuthero	300 mg	174	Dietary Selenium	
175	Swimming	30 minutes	176	Bifidobacterium Lactis HN019	10 billion CFU
177	Wakame and Carob		178	Apple Cider Vinegar	
179	Coriander		180	Celery Seed	600 mg
181	Okra		182	Bee Pollen And Honey	
183	Cabbage		184	Persimmon	
185	Lactobacillus Salivarius	10 billion CFU	186	Pentadecanoic Acid (C15:0)	
187	Olive Leaf Extract	500 mg	188	Sulforaphane	30 mg
189	Prune Essence Concentrate		190	Deep Seawater	
191	Gamma-Oryzanol		192	Shilajit	500 mg

193	Bifidobacterium Animalis Subsp. Lactis	10 billion CFU	194	Alpha-Linolenic Acid (ALA)	
195	Hatha Yoga	1 hour	196	Pilates	30 minutes
197	Avoid Lead Exposure		198	Baicalin	50 mg
199	Ecklonia Cava	100 mg	200	Avoid Mercury Exposure	
201	Eccentric Exercise		202	Coconut	
203	Bee Pollen and Royal Jelly		204	Tamarind	500 mg
205	Avoid Alanine Supplements		206	Morning Sunlight Exposure	30 minutes
207	Hydroxytyrosol	5 mg	208	Punicalagin	300 mg
209	Dietary Iron				

1



Choose Healthy Fats

IMPACT

5 / 5

EVIDENCE

5 / 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

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 [\[R, R\]](#).

 PERSONALIZED TO YOUR GENES

A diet low in saturated fat may cause a bigger drop in LDL cholesterol in people with your [PPARA](#) gene variant [\[R\]](#). Try to focus on healthy unsaturated fat sources.

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
PPARA	rs135549	TT	

2



Eat Fiber-Rich Foods

IMPACT

5 / 5

EVIDENCE

4 / 5

How to implement

Incorporate foods high in fiber, such as fruits, vegetables, whole grains, and legumes, into your daily meals. Aim for a total dietary fiber intake of 25 to 30 grams per day, spread out over all meals.

Description

Fiber is a type of carb that your body can’t digest which supports digestion, heart health, and blood sugar control. You can get fiber by eating things like whole grains, fruits, nuts, seeds, and leafy greens.

Fiber is a type of carb that your body can’t digest. It supports digestion, heart health, blood sugar control, and more [\[R, R\]](#).

Adults should get 28 g of fiber every day. Most people in the US don’t get enough fiber [\[R, R\]](#).

You can get more fiber by eating [\[R, R\]](#):

- Whole grains
- Fruits
- Leafy greens
- Nuts and seeds
- Beans
- Broccoli

Fiber supplements, such as [psyllium husk](#), are available for people who don’t get enough fiber from their diets [\[R, R\]](#).

How it helps

Experts recommend eating more fiber (3-10 g more per day) to reduce your LDL cholesterol. Fiber stops your gut from absorbing too much cholesterol. By doing so, it lowers cholesterol levels in the blood [\[R, R, R, R\]](#).

High-fiber foods that may help lower cholesterol include:

- Buckwheat [\[R, R\]](#)
- Oats [\[R\]](#)
- Barley [\[R, R\]](#)
- Beans [\[R\]](#)
- Apples [\[R\]](#)

The following fiber supplements may also help reduce LDL cholesterol:

- [Psyllium](#) [\[R, R, R, R\]](#)
- Beta-glucans [\[R, R\]](#)
- [Glucomannan](#) [\[R\]](#)
- [Inulin](#) [\[R, R\]](#)
- Resistant starch [\[R\]](#)

 PERSONALIZED TO YOUR GENES

People with your **LEP** variant may see a bigger drop in cholesterol from fiber (psyllium) supplementation [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
LEP	rs7799039	GG	

3



Green Tea

IMPACT

4 / 5

EVIDENCE

5 / 5

How to implement

Consume 400 mg of green tea extract daily. This can be taken in the form of capsules or tablets available that specify the amount of green tea extract. Ensure the supplement is taken according to the product's specific instructions, usually once a day with water.

TYPICAL STARTING DOSE

400 mg

Description

Tea is a beverage made by steeping the leaves of the *Camellia sinensis* plant in hot water. It comes in various types, including black, green, white, and herbal teas, and is known for its diverse flavors and potential health benefits due to antioxidants and other bioactive compounds.

[Green](#) and black tea are made from the same plant (*Camellia sinensis*). This plant is processed in different ways to make each type of tea [\[R\]](#), [\[R\]](#).

Tea contains antioxidants called **flavonoids**, which may help prevent [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart disease
- Cancer
- Diabetes

How it helps

A meta-analysis of 10 studies concluded that tea intake protects against metabolic syndrome by lowering DBP, SBP (only black tea), diabetes incidence (only green tea), and LDL (only green tea). Similarly, tea extract reduces BMI and blood glucose while increasing HDL in obese people, thus helping prevent metabolic syndrome, according to a meta-analysis of 16 trials and 1090 participants [\[R\]](#), [\[R\]](#).

Please note: polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea [\[R\]](#).

4



Limit Trans Fats

IMPACT

4 / 5

EVIDENCE

5 / 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

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

To make a meaningful change, replace saturated and trans fats with healthy unsaturated fat sources like **fish, nuts, and seeds** [\[R, R, R, R, R, R\]](#).

5



Limit Saturated Fat

IMPACT

4 / 5

EVIDENCE

5 / 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

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

To make a meaningful change, replace saturated and trans fats with healthy unsaturated fat sources like **fish, nuts, and seeds** [\[R, R, R, R, R, R\]](#).

6



Red Yeast Rice

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Take a 500 mg capsule of red yeast rice supplement once daily, preferably with your evening meal to help with absorption and efficacy.

TYPICAL STARTING DOSE

500 mg

Description

Red yeast rice is a fermented product made from rice and red yeast (*Monascus purpureus*). It has a long history of use in traditional Chinese medicine, and it is commonly used today as a dietary supplement to help lower cholesterol levels due to the presence of naturally occurring compounds called monacolins.

[Red yeast rice](#) is made when a type of fungus grows on rice. As the fungus ferments the rice, it produces a chemical called *monacolin K*. This chemical is very similar to a cholesterol-lowering drug [\[R\]](#).

People mostly use red yeast rice to manage their cholesterol. It may also help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Inflammation
- High blood pressure
- High blood sugar

How it helps

Red yeast rice (200-4,800 mg/day for 4-24 weeks) may help lower LDL cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Red yeast rice contains monacolin K, which works in a similar way as the cholesterol drug lovastatin. It may help by reducing how much cholesterol the liver makes [\[R\]](#), [\[R\]](#).

Please note: *The FDA does not allow the sale of products containing monacolin K in the United States. Additionally, experts warn about the safety and variable efficacy of red yeast rice supplements. Products containing monacolin K may cause muscle and liver damage. Red yeast rice should not be used during pregnancy or breastfeeding. Talk to your doctor before taking red yeast rice* [\[R\]](#), [\[R\]](#).

7



Niacin Supplements

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Take a 20 mg niacin supplement daily, preferably with a meal to aid in absorption and minimize potential stomach upset.

TYPICAL STARTING DOSE

20 mg

Description

Niacin is an essential B vitamin that plays a vital role in metabolism, supporting heart health, maintaining healthy cholesterol levels, and promoting overall cellular function when included in a balanced diet or as a supplement.

[Niacin](#) (vitamin B3) is found in many foods. It supports your nervous system, skin, gut, and more [\[R\]](#).

Adults should get **16 mg** of niacin a day, and most people get enough from their diets [\[R\]](#).

Experts recommend getting niacin from food rather than supplements [\[R\]](#), [\[R\]](#).

How it helps

Niacin may help reduce LDL cholesterol. Studied forms include:

- **Niacin:** 150-4,500 mg/day for 2-12 months [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- **Extended-release niacin:** 500-3,000 mg/day for 1.5-24 months [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)

Niacin may help by:

- Reducing how much fat is produced by the liver [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Increasing cholesterol removal from the blood [\[R\]](#), [\[R\]](#), [\[R\]](#)

Please note: *Niacin has been linked to liver damage and strokes. It may also cause flushing, bruises, and bleeding. Most doctors do not recommend taking niacin unless a person can't take statins and has close medical supervision. Talk to your doctor before taking niacin* [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Niacin may lower LDL cholesterol more in people with your [LIPC](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
ADAM10	rs1800588	CC	

8



Tomato

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

Incorporate fresh or cooked tomatoes into your daily diet. This can be achieved by adding them to salads, sandwiches, pastas, and sauces or simply eating them on their own. Aim for at least one serving (approximately 1 medium-sized tomato or 1/2 cup of chopped or cooked tomatoes) per day.

Description

Tomatoes are a fruit grown widely in numerous varieties, and are rich in vitamins C and K, as well as the antioxidant lycopene, which may contribute to heart health and protect against certain chronic diseases when incorporated into a balanced diet.

Tomato (*Solanum lycopersicum*) is a fruit originally from the Andes in South America. It is usually consumed as a vegetable in juices, sauces, or fresh. Tomato is an important source of [\[R\]](#):

- [Vitamin C](#)
- Potassium
- Antioxidants (e.g., [lycopene](#))
- Vitamin B9 ([folate](#))

Tomato is traditionally used for [\[R\]](#), [\[R\]](#):

- High cholesterol
- High blood pressure

How it helps

A meta-analysis of 37 guidelines, 108 systematic reviews, and 20 trials identified tomatoes among the foods causing small LDL-C reductions [\[R\]](#).

In line with this, a meta-analysis of 21 studies found that interventions supplementing with tomato reduce LDL-C (by 0.22 mmol/L) and IL-6 [\[R\]](#).

Another meta-analysis (6 studies) found that tomato consumption lowers TC (by 4.39 mg/dL), triglycerides (by 3.94 mg/dL), and LDL-C (by 2.09 mg/dL), especially in younger participants [\[R\]](#).

Lycopene (at least 25 mg/day) lowers total cholesterol (by 7.55 mg/dL) and LDL-C (by 10.35 mg/dL) according to a meta-analysis of 12 studies [\[R\]](#).

However, a meta-analysis of 7 trials and 465 participants found that tomatoes lower TNF-alpha but not IL-6 or CRP levels [\[R\]](#).

A meta-analysis of 34 studies found no significant effects of tomato or lycopene on cardiovascular risk factors such as LDL-C, triglycerides, IL-6, TNF-alpha, or CRP [\[R\]](#).

9



Exercise At Least One Hour a Day

IMPACT

3 / 5

EVIDENCE

5 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

[Exercise](#) can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal.**

How it helps

Exercise is one of the best things you can do to lower LDL cholesterol. Experts say you should get 150 minutes of exercise a week to help lower cholesterol [\[R, R, R, R\]](#).

Many types of exercise may help lower LDL cholesterol. These include:

- Aerobic exercise [\[R, R, R, R\]](#)
- Strength training [\[R, R\]](#)
- Aquatic exercise [\[R\]](#)
- Low-intensity exercise, such as tai chi and [yoga](#) [\[R, R, R\]](#)

Working out for longer and doing harder exercises may help with LDL cholesterol even more [\[R, R, R, R\]](#).

Exercise may also be more effective when combined with a healthy diet [\[R, R\]](#).

Exercise may help lower LDL cholesterol by helping your muscles use fat as energy [\[R\]](#).

10



Psyllium

IMPACT3 / 5

EVIDENCE4 / 5

How to implement

Take 5 grams of psyllium husk powder with at least 8 ounces of water. Do this once daily, preferably in the morning before breakfast. Continue this regimen daily for ongoing digestive health benefits.

TYPICAL STARTING DOSE

5 g

Description

Psyllium is a plant-based dietary fiber derived from the seeds of the *Plantago ovata* plant. It is primarily used both traditionally and today, as a dietary supplement due to its high soluble fiber content, aiding in digestive health and regulating bowel movements. The main compounds in psyllium are soluble fiber and mucilage.

[Psyllium husk](#) might be beneficial for gut health and heart health. But what exactly is this supplement and how does it work?

Psyllium is an herb that grows around the world. Its “husk,” the outer coating of the psyllium seed, is full of fiber. The health benefits of psyllium husk are due to this fiber.

How it helps

Mayo Clinic mentions psyllium as one of the dietary approaches to reduce high cholesterol [\[R\]](#).

A meta-analysis of 12 studies showed that psyllium decreased LDL-C by 13.51 mg/dL [\[R\]](#).

Another meta-analysis (8 studies) and 656 subjects showed that 10.2g psyllium/day with a low-fat diet for 8 weeks resulted in a 7% decrease in LDL-C [\[R\]](#).

A meta-analysis of 21 studies with 1717 subjects showed that psyllium between 3-20.4 g/d for at least 2 weeks led to a decrease in serum LDL-C of 10.731 mg/dL [\[R\]](#).

A meta-analysis of 3 trials concluded that adding psyllium fiber to treatment with statins produces a reduction in LDL cholesterol levels equivalent to doubling the statin dose [\[R\]](#).

11



Plant Sterols & Stanols

IMPACT

3 / 5

EVIDENCE

4 / 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

Adding plant sterols and stanols to your diet may help lower total and “bad” (LDL) cholesterol. They block cholesterol absorption in the gut, reducing its blood levels [\[R, R, R\]](#).

They may even boost the effectiveness of cholesterol-lowering diets and medications [\[R, R, R\]](#).

Sources of plant sterols and stanols that may reduce cholesterol include:

- **Nuts** like walnuts, pistachios, and almonds (at least 60 g/day) [\[R, R, R, R, R\]](#)
- **Rice bran oil** (18-50 g/day) [\[R, R\]](#)
- **Avocado** (135-500 g/day) [\[R, R\]](#)
- Plant sterol and stanol supplements (2-9 g/day for 4-6 weeks) [\[R\]](#)

You may also add plant sterols and stanols (2-3 g/day) to your diet by eating fortified foods like [\[R, R, R, R, R\]](#):

- Spreads
- Dairy products
- Salad dressings
- Plant oils

However, not all fortified foods are healthy and good for your cholesterol.

12



Fruits And Vegetables

IMPACT

3 / 5

EVIDENCE

4 / 5

How to implement

Increase your intake of fruits and vegetables to at least five servings per day, aiming for a variety of types and colors to ensure a broad range of nutrients. Each serving size should roughly be the amount you can fit in one hand. Try to incorporate at least one serving of fruits or vegetables into every meal and snack throughout the day.

Description

A diet rich in fruits and vegetables provides essential nutrients, antioxidants, and dietary fiber. This combination supports overall health, helps maintain a healthy weight, and reduces the risk of chronic diseases such as heart disease and certain cancers.

How it helps

All experts agree that diets rich in fruits and vegetables help reduce LDL cholesterol and protect the heart:

- **American Heart Association:** “A strong and consistent body of evidence from observational studies has documented that dietary patterns rich in fruits and vegetables, with the exception of white potatoes, are associated with a reduced risk of CVD.” [\[R\]](#)
- **Mayo Clinic:** “Focus on plant-based foods, including fruits, vegetables and whole grains.” [\[R\]](#)
- **European Society of Cardiology:** “Dietary fiber (particularly of the soluble type)—which is present in legumes, fruits, vegetables, and wholegrain cereals—has a hypocholesterolemic effect.” [\[R\]](#)

Consumption of fruits and vegetables is generally associated with lower LDL cholesterol levels. A review of various studies highlights this relationship:

1. A large study showed that higher fruit and vegetable consumption is inversely related to LDL cholesterol levels across different demographics and lifestyle factors, with an observed decrease in LDL cholesterol as fruit and vegetable intake increased [\[R\]](#).
2. Another study reported significant reductions in LDL cholesterol (33%) following a diet high in vegetables, fruits, and nuts compared to a control diet [\[R\]](#).

13

Aerobic Exercise (Cardio)

IMPACT

3 / 5

EVIDENCE

4 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Exercise is one of the best things you can do to lower LDL cholesterol. Experts say you should get 150 minutes of exercise a week to help lower cholesterol [\[R, R, R, R\]](#).

For instance, aerobic exercise may lower LDL cholesterol by 4-12 mg/dL according to several meta-analyses [\[R, R, R, R\]](#).

Working out for longer and doing harder exercises may help with LDL cholesterol even more [\[R, R, R, R\]](#).

Exercise may also be more effective when combined with a healthy diet [\[R, R\]](#).

Exercise may help lower LDL cholesterol by helping your muscles use fat as energy [\[R\]](#).

14



Glucomannan

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 1 gram of glucomannan powder with 8 ounces of water, 15 minutes to 1 hour before each meal, three times daily. It's essential to drink plenty of water when taking glucomannan to ensure it reaches the stomach and expands, helping to promote a feeling of fullness.

TYPICAL STARTING DOSE

3 g

Description

Glucomannan is a dietary fiber derived from the root of the konjac plant and is often used as a weight loss supplement. It may promote feelings of fullness and support weight management when used in conjunction with a balanced diet.

How it helps

In one meta-analysis with 12 studies and 370 participants, glucomannan lowered LDL-C by 15.99 mg/dL [\[R\]](#).

In patients with type 2 diabetes, glucomannan reduces total cholesterol, and LDL cholesterol according to a meta-analysis of 6 trials and 440 participants [\[R\]](#).

15



Aquatic Exercise

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Participate in aquatic exercise sessions, such as swimming or water aerobics, for 60 minutes, 3 to 5 times per week. Ensure the exercise intensity is moderate, allowing you to talk but not sing during the activity. Consistency over time is key, so aim to incorporate this into your weekly routine for at least 3 to 6 months to observe benefits.

TYPICAL STARTING DOSE

1 hour

Description

Aquatic exercise involves physical activity performed in water, such as swimming, water aerobics, or aquatic therapy. It is gentle on the joints, making it suitable for individuals with mobility issues, and can help improve cardiovascular fitness and muscle strength.

Aquatic exercise is any type of low-impact physical activity performed in a pool. In this type of cardio exercise, water helps the body float, which reduces gravity and makes the practice more comfortable and tolerable [\[R\]](#), [\[R\]](#).

Compared to land-based exercise, aquatic exercise may be better by [\[R\]](#):

- Reducing the stress and impact on joints
- Lowering fracture risk

Hence, it is usually **recommended for the elderly**. Aquatic exercise is also suitable for people who don't know how to swim [\[R\]](#).

How it helps

Exercise is one of the best things you can do to lower LDL cholesterol. Experts say you should get 150 minutes of exercise a week to help lower cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

A 2019 meta-analysis of 10 trials and 327 subjects showed that **aquatic endurance exercise decreased LDL-C by 10.1 mg/dL** [\[R\]](#).

Working out for longer and doing harder exercises may help with LDL cholesterol even more [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

16



Sea Buckthorn

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take 500mg of sea buckthorn oil capsules twice daily with meals for at least 3 months to see beneficial effects on skin hydration and elasticity.

Description

Sea buckthorn is a deciduous shrub native to Europe and Asia, and its fruits are rich in vitamins, particularly vitamin C, and antioxidants. It is used for its potential health benefits, including immune support and skin health.

How it helps

A meta-analysis of 15 studies concluded that supplementation with sea buckthorn reduces LDL-cholesterol in people with abnormal lipid metabolism [\[R\]](#).

Sea buckthorn is full of omega-7 fatty acids, which can promote healthier cholesterol levels by increasing HDL and reducing LDL.

17



Barberry

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take a barberry supplement of 500-1000 mg daily, divided into two or three doses with meals for up to 12 weeks. Do not exceed the recommended dose without consulting a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

Barberry is an herbal remedy used in traditional medicine for its potential to support digestive health and reduce inflammation. It contains compounds that may have antimicrobial and antioxidant properties.

How it helps

A meta-analysis of 5 trials and 339 participants found that barberry supplementation lowered LDL cholesterol by 13.75 mg/dL. Additionally, the barberry species *Berberis vulgaris* and *Berberis aristata* were found to significantly reduce LDL cholesterol (by 0.68- and 2.92-fold, respectively) in patients with metabolic syndrome in another meta-analysis. Clinical trials also supported the LDL cholesterol-lowering effects of barberry in individuals with cardiovascular risk factors, metabolic syndrome, hypercholesterolemia, rheumatoid arthritis, and type 2 diabetes [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Barberry contains a compound called berberine that reduces the body's LDL cholesterol levels.

18



Walking

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate at least 30 minutes of brisk walking into your daily routine, aiming for a minimum of five days a week. This can be done in one continuous session or broken into shorter periods, such as three 10-minute walks throughout the day.

TYPICAL STARTING DOSE

30 minutes

Description

Walking is a low-impact form of exercise that can contribute to cardiovascular fitness, weight management, and improved overall health. It is used to support physical activity goals, enhance mood, and promote better cardiovascular health.

How it helps

A systematic review and meta-analysis of 42 studies (1843 participants) found that walking groups offer various health benefits, such as reduced total cholesterol, increased VO2max, improved physical functioning, and decreased depression scores. Another meta-analysis of 12 studies in overweight or obese women found moderate reductions in total cholesterol and LDL levels with regular moderate-intensity walking. Additionally, a meta-analysis of 25 trials (1176 adults) showed reduced LDL-C and TC/HDL-C with walking, regardless of body composition changes. Another meta-analysis (22 trials, 948 subjects) found a 4% decrease in non-HDL-C in walking groups, with more recent studies showing greater reductions. However, the optimal frequency, duration, and intensity for cardiovascular risk reduction remain unclear, as per a meta-analysis of 37 trials involving 2001 participants [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

19



Berries

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate a variety of berries such as strawberries, blueberries, raspberries, and blackberries into your daily diet. Aim for at least one cup of fresh or frozen berries every day, either as a snack, part of your breakfast (such as in oatmeal or yogurt), or as a dessert.

Description

Berries, such as strawberries, blueberries, and raspberries, are packed with antioxidants, vitamins, and fiber. Regular consumption of berries may support heart health, improve cognitive function, and contribute to overall well-being.

How it helps

A meta-analysis indicated that berry consumption significantly lowered LDL-cholesterol levels. This suggests that berries can be a beneficial dietary addition for cardiovascular risk management [\[R\]](#).

In a dose-response controlled trial, freeze-dried strawberries lowered serum cholesterol and LDL levels in adults with abdominal adiposity and elevated serum lipids [\[R\]](#).

20



Artichoke Leaf Extract

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 500 mg of artichoke leaf extract daily with a glass of water, preferably with or after a meal to aid absorption.

TYPICAL STARTING DOSE

500 mg

Description

Artichoke leaf extract is derived from the leaves of the artichoke plant and is used as a dietary supplement. It is being researched for its potential to support liver health and digestive function.

[Artichokes](#) are packed with antioxidants and fiber. People eat the heart of the artichoke. However, many of the plant’s active compounds are also found in its leaves [\[R\]](#), [\[R\]](#).

People use artichoke leaf extracts to help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Lower cholesterol
- Lower blood pressure
- Improve digestion

How it helps

Artichoke leaf extract (500-2,700 mg/day for 5-12 weeks) may help lower LDL cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#).

It may help by reducing the amount of cholesterol absorbed in the gut and made by the liver [\[R\]](#).

21



Safflower Oil

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate safflower oil into your diet by using it as a cooking oil for sautéing or frying, or add it to salad dressings and dips. Aim for about 1-2 tablespoons daily. Keep in mind, like all oils, safflower oil is high in calories, so use it in moderation within a balanced diet.

Description

Safflower oil is a cooking oil derived from the safflower plant's seeds. It is known for its heart-healthy properties, as it is high in monounsaturated fats and low in saturated fats.

How it helps

To reduce LDL and protect the heart, some health experts suggest partly replacing saturated fats with unsaturated fat-rich oils from **safflower**, sunflower, rapeseed, flaxseed, corn, olives, or soybean [R].

A meta-analysis of 54 trials found [safflower oil](#) the **most effective unsaturated fat at lowering LDL cholesterol** (up to -12.76 mg/dL) when used to replace dietary saturated fats [R].

22



Goji Berries

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate goji berries into your daily diet by adding a handful (about 1 ounce or 28 grams) to your morning cereal, yogurt, or smoothie. You can also snack on dried goji berries throughout the day. Aim to include them in your diet consistently for at least a month to observe potential health benefits.

Description

Goji berries are a nutritious fruit known for their high antioxidant content. They may support immune health, provide essential nutrients, and be incorporated into a healthy diet as a snack or ingredient.

How it helps

A meta-analysis of 7 trials concluded that the daily consumption of goji berry polysaccharide lowers triglyceride, fasting glucose, and LDL cholesterol while increasing HDL cholesterol. Another meta-analysis (7 trials and 548 participants) concluded that goji berries lower fasting glucose (by 0.36 mmol/L) and marginally reduce the concentrations of total cholesterol (by 0.30 mmol/L) and triglycerides (by 0.20 mmol/L). The most recent meta-analysis (10 studies) found that consuming goji berries (especially if eaten whole) lowers triglycerides (by 0.14 mmol/L) and increases HDL cholesterol (by 0.06 mmol/L) [R, R, R].

23



Amla

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate 1-2 teaspoons (approximately 4-8 grams) of amla powder into your daily diet. You can mix it into a glass of water, blend it into a smoothie, or sprinkle it over salads or cooked meals. Do this consistently every day for best results.

Description

Amla, also known as Indian gooseberry, is a fruit known for its high vitamin C content and antioxidant properties. It is used in traditional Ayurvedic medicine for various health benefits, including immune support and skin health.

How it helps

Two meta-analyses (the largest one with 9 trials) concluded that supplementation with amla (500-1500 mg/day for 14-84 days) lowers LDL-C (by 15.08 mg/dL) [\[R\]](#), [\[R\]](#).

24



Green Coffee Extract

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take a 400 mg dose of green coffee extract supplement daily. This can be consumed in the morning or as directed on the supplement’s packaging.

TYPICAL STARTING DOSE

400 mg

Description

Green coffee extract is believed to support weight management due to its high content of chlorogenic acids, which may help regulate blood sugar levels and promote fat metabolism.

Green coffee is made from unroasted coffee beans. It’s rich in an anti-inflammatory and antioxidant compound called [chlorogenic acid](#) [R, R].

Green coffee may help lower [R]:

- Blood pressure
- Weight
- Blood sugar levels

How it helps

Three meta-analyses (the largest one with 17 studies) concluded that green coffee bean extract lowers LDL cholesterol by 4.38 mg/dL [R, R, R].

Green coffee extract contains chlorogenic acid, which can help reduce the absorption of and utilization of cholesterol in your liver. Chlorogenic acid may also reduce the absorption of carbohydrates, indirectly helping in managing high cholesterol levels.

Please note: *Green coffee bean extract contains caffeine. Keep this in mind if you're trying to limit your caffeine intake. If you're pregnant, limit caffeine to 200 mg per day* [R].

Please note: *chlorogenic acid from green coffee beans may inhibit the production of the thyroid hormone T4 (thyroxine). Individuals with thyroid disorders, particularly hypothyroidism or low T4 levels, should exercise caution when using coffee bean extract and always consult with a healthcare provider before taking this supplement* [R].

Please note: *polyphenols and tannins from coffee may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using coffee or coffee supplements.*

25



Krill Oil

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take 1 to 3 grams of krill oil daily as a dietary supplement, preferably with a meal to enhance absorption. It's often available in soft gel form, making it easy to swallow. Continue this regimen consistently for best results, typically reviewing its effectiveness and any need for adjustments with a healthcare provider after a few months.

TYPICAL STARTING DOSE

1 g

Description

Krill oil is a source of omega-3 fatty acids, primarily in the form of phospholipids. It can promote cardiovascular health, joint comfort, and may have anti-inflammatory properties.

How it helps

[Krill oil](#) contains 19% omega-3 fatty acids, but in the form of phospholipids (as opposed to fish oil, which contains them as part of triglycerides). This protects omega-3 fatty acids from oxidative damage and increases their absorption. Krill oil also contains astaxanthin, which also protects against oxidative damage [\[R\]](#), [\[R\]](#), [\[R\]](#).

A meta-analysis of 7 trials and 662 healthy and dyslipidemic participants found that supplementation with [krill oil](#) (500 to 4,000 mg/d for 1-3 months) lowers LDL cholesterol (by 15.52 mg/dL), especially when taken more than 12 weeks. Another meta-analysis (of 64 trials) compared krill oil and fish oil and found no differences on the reducing effects on LDL, TC, and HDL [\[R\]](#), [\[R\]](#).

However, in one recent placebo-controlled RCT with 164 individuals with severe hypertriglyceridemia, 4 g/d krill oil for 26 weeks caused no significant change in LDL [\[R\]](#).

26



Beta-Glucans

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take a beta-glucan supplement daily, with a dosage ranging from 250mg to 500mg. It is best consumed with a meal to enhance absorption. Continue this routine daily to support immune health.

Description

Beta-glucans are types of soluble fiber found in foods like oats and barley. They have been associated with immune system support and may help lower cholesterol levels when consumed as part of a heart-healthy diet.

Beta-glucan is a type of soluble fiber with antioxidant properties. It is abundant in [\[R\]](#) [\[R\]](#):

- Baker's yeast
- Cereals (e.g., oats, barley)
- Mushrooms (e.g., maitake)
- Seaweeds

People use beta-glucans to [\[R\]](#) [\[R\]](#) [\[R\]](#) [\[R\]](#) [\[R\]](#):

- Improve immunity (e.g., fight infections)
- Reduce blood sugar
- Reduce cholesterol

How it helps

A 2011 meta-analysis of 30 research articles showed that 3 g/d of oat or barley beta-glucan **decreased LDL-C by 28.47 mg/dL** [\[R\]](#).

A 2014 meta-analysis of 28 RCTs showed that consuming at least 3 g/d of oat beta-glucans **decreased LDL-C by 9.65 mg/dL** [\[R\]](#).

A 2010 meta-analysis of 11 clinical trials showed that **barley and barley beta-glucan decreased LDL-C by 10.42 mg/dL** [\[R\]](#).

27



Cranberry

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Consume one to two 8-ounce servings of unsweetened cranberry juice daily, or take 500 mg of cranberry supplements twice daily. Continue this practice consistently for at least several weeks to potentially observe benefits.

Description

Cranberries are known for their high antioxidant content and potential to promote urinary tract health by preventing bacterial adhesion. Consuming cranberries or cranberry products may help reduce the risk of urinary tract infections and provide antioxidant benefits.

Cranberries are fruits rich in vitamins, minerals, and antioxidants. They are available in different forms, including [\[R\]](#):

- Dried fruits
- Juice
- Powder
- Pills

How it helps

A meta-analysis of 21 studies found beneficial effects of cranberry consumption on LDL levels [\[R\]](#).

Cranberries are packed with antioxidants that can help reduce LDL cholesterol levels.

28



Barley

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Include barley in your diet by adding it to soups, stews, or salads. You can also replace rice or other grains with cooked barley. Aim to consume barley-based meals 2-3 times a week for ongoing dietary benefits.

Description

Barley is a whole grain rich in fiber, vitamins, and minerals. Incorporating barley into your diet can support digestive health, provide sustained energy, and contribute to overall nutritional wellness.

How it helps

A 2009 meta-analysis of 8 trials and 391 patients showed that 4-12 weeks of barley consumption **significantly lowered LDL-C by 10.02 mg/dL** [\[R\]](#).

2010 meta-analysis of 11 clinical trials showed that **barley and barley beta-glucan decreased LDL-C by 10.42 mg/dL** [\[R\]](#).

29



Berberine

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 500 mg of berberine two times a day before meals. Continue this regimen for up to three months, then evaluate its effects with your healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

Berberine is a compound found in certain plants, known for its potential to support blood sugar control and heart health.

[Berberine](#) is an active compound of some plants used in traditional medicine, such as [\[R\]](#):

- European barberry
- Oregon grape
- Goldenseal
- Chinese goldthread
- Tree turmeric

Berberine is also available as a supplement. People use it to help with [\[R, R, R\]](#):

- Diabetes
- High cholesterol
- High blood pressure
- PCOS

How it helps

Berberine (1,000-1,500 mg/day for 1-6 months) may help lower LDL cholesterol [\[R, R, R, R, R\]](#).

Berberine or its source, tree turmeric, may also help when combined with other supplements, such as [milk thistle](#). Milk thistle may help the body absorb berberine [\[R, R\]](#).

Berberine seems to help by [\[R, R, R\]](#):

- Clearing cholesterol from the blood
- Reducing how much fat is produced by the liver

 PERSONALIZED TO YOUR GENES

A supplement with berberine may reduce LDL cholesterol more in people with your [LDLR](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
SPC24	rs14158	GG	

30



Black Seed Oil

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take one to two teaspoons (5-10ml) of black seed oil twice daily, preferably before meals. For capsule forms, follow the manufacturer's instructions, commonly 500mg capsules twice daily. Continue this regimen for up to 8 weeks to evaluate its effects.

TYPICAL STARTING DOSE

2 tsp

Description

Both black seed extract and black seed oil have been traditionally used for their potential health benefits, including anti-inflammatory and antioxidant properties. They may support overall wellness and immune function when incorporated into a balanced diet.

[Black seed](#) (black cumin) and its oil are used in cooking and traditional medicine [\[R\]](#).

People mainly use black seed for [\[R, R, R\]](#):

- Allergies
- Joint pain

How it helps

Black seed may help lower LDL cholesterol. Studied forms include [\[R, R, R, R, R, R, R, R\]](#):

- **Black seed powder:** 200-2,000 mg/day for 2 weeks-12 months
- **Black seed oil:** 100-2,000 mg/day for 2 weeks-12 months

However, not all studies found this benefit [\[R\]](#).

The oil may have a greater impact on LDL cholesterol than the powder [\[R, R\]](#).

Black seed may help by [\[R, R, R\]](#):

- Increasing cholesterol clearance from the body
- Reducing how much cholesterol is made by the liver

Please note: *Black seed may interact with some medications. Consult your doctor before taking black seed* [\[R\]](#).

31



Lactobacillus Acidophilus

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take a probiotic supplement containing Lactobacillus acidophilus. Look for products that offer around 10 billion CFUs (colony-forming units) and take it once daily, preferably on an empty stomach, either first thing in the morning or right before bed.

TYPICAL STARTING DOSE
10 billion CFU

Description

Lactobacillus acidophilus is a [probiotic](#) bacterium that has been traditionally and widely used in the dairy industry to make yogurt [\[R\]](#).

More recently, *L. acidophilus* has been used as a probiotic. People take it to help with [\[R, R, R, R\]](#):

- High cholesterol
- Gut diseases
- Allergies
- Vaginal infections

How it helps

In a review of 11 trials, Gaio and the *Lactobacillus acidophilus* strain reduced TC and LDL-C levels to a greater extent than other bacterial strains [\[R\]](#).

In an analysis of 15 studies, a significant reduction in LDL was found in trials that contained the *Lactobacillus Acidophilus* strain compared to other types of strains [\[R\]](#).

32



Black Seed (Black Cumin)

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take 1000 mg of black seed (black cumin) supplement daily, preferably split into two doses of 500 mg each, one in the morning and one in the evening.

TYPICAL STARTING DOSE

1000 mg

Description

Black seed, also known as black cumin or *Nigella sativa*, has been used for its potential health benefits in traditional medicine. It is believed to have anti-inflammatory, antioxidant, and immune-boosting properties.

[Black seed](#) (black cumin) and its oil are used in cooking and traditional medicine [\[R\]](#).

People use black seed for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Asthma
- Allergies
- High blood sugar
- High blood pressure
- Joint pain

How it helps

Black seed may help lower LDL cholesterol. Studied forms include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- **Black seed powder:** 200-2,000 mg/day for 2 weeks-12 months
- **Black seed oil:** 100-2,000 mg/day for 2 weeks-12 months

However, not all studies found this benefit [\[R\]](#).

The oil may have a greater impact on LDL cholesterol than the powder [\[R\]](#), [\[R\]](#).

Black seed may help by [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Increasing cholesterol clearance from the body
- Reducing how much cholesterol is made by the liver

Please note: *Black seed may interact with some medications. Consult your doctor before taking black seed* [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Your ***HMGR*** gene variant is linked to higher LDL cholesterol levels. It may increase the activity of an enzyme that makes cholesterol. Black seed may help by blocking this enzyme [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
HMGR	rs3846663	TC	

33



Sunflower Oil

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate sunflower oil into your diet by using it for cooking, salad dressings, or baking. Aim to use it as your primary cooking oil, replacing other oils or fats, to fully benefit from its dietary properties.

Description

Sunflower oil is a plant-based cooking oil extracted from sunflower seeds. It is rich in heart-healthy monounsaturated and polyunsaturated fats and vitamin E, making it a nutritious choice for culinary purposes.

How it helps

To reduce LDL and protect the heart, some health experts suggest partly replacing saturated fats with unsaturated fat-rich oils from safflower, **sunflower**, rapeseed, flaxseed, corn, olives, or soybean [\[R\]](#).

A 2021 systematic review of 13 meta-analyses concluded that **sunflower oil** was the most effective for reducing TC, LDL-C and TG. It **reduced LDL-C by 16.24 mg/dL** [\[R\]](#).

34



Relaxation Techniques

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Incorporate relaxation techniques such as deep breathing exercises, meditation, or yoga into your daily routine. Spend at least 15-30 minutes each day practicing one of these techniques, preferably in a quiet, comfortable space without interruptions.

TYPICAL STARTING DOSE

30 minutes

Description

Relaxation techniques encompass various methods like deep breathing, yoga, meditation, and progressive muscle relaxation, aimed at reducing stress and promoting mental and physical relaxation. Practicing these techniques regularly can help manage stress, improve mental clarity, and enhance overall emotional well-being.

We all get stressed from time to time.

[Stress](#) can help you deal with a challenge or avoid danger. However, **it’s not healthy to be stressed for a long time** [\[R\]](#), [\[R\]](#).

Relaxation techniques such as [yoga](#) and [meditation](#) can relieve stress in different ways. Most of them focus on breathing and help you get rid of negative thoughts and emotions [\[R\]](#).

People use relaxation techniques to improve conditions like [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Anxiety
- Depression
- Chronic pain

Progressive muscle relaxation is another relaxation technique. In this technique, you focus on tensing and relaxing different parts of your body. It is common to start with the toes and slowly work your way up to the neck and head [\[R\]](#), [\[R\]](#).

Autogenic training is a relaxation technique that a person may carry out on their own. It uses exercises that take the mind’s attention to bodily sensations such as warmth and heaviness [\[R\]](#), [\[R\]](#).

How it helps

Stress and anxiety may increase your cholesterol. People under a lot of stress are much more likely to have high “bad” (LDL) cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#).

Fortunately, when stress increases cholesterol, it only seems to do so for a short while. Cholesterol tends to drop back down after stressful situations are over [\[R\]](#).

Relaxation techniques like yoga and meditation may help combat stress and lower LDL cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#).

35



Pycnogenol

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take 100 mg of pycnogenol supplement daily. This can be taken in a single dose or divided into two doses of 50 mg each, one in the morning and one in the evening.

TYPICAL STARTING DOSE

100 mg

Description

Pycnogenol (pine bark extract) is derived from the bark of the maritime pine (Pinus pinaster). It has been used in traditional n European folk medicine for centuries, and more recently as a supplement. The extract contains a group of bioactive compounds known as proanthocyanidins, which may be beneficial in supporting cardiovascular health, promoting skin health, and aiding in the management of various conditions related to inflammation and oxidative stress.

Pycnogenol comes from the bark of pine trees that grow in the Mediterranean [\[R\]](#), [\[R\]](#).

It may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Athletic performance
- Seasonal allergies
- Cognitive function
- Joint health
- Varicose veins

How it helps

A meta-analysis of 24 trials and 1594 participants concluded that supplementation with pycnogenol (150-200 mg/day for 8-24 weeks) reduces LDL-C (by 7.12 mg/dL) while increasing HDL-C (by 3.27 mg/dL) [\[R\]](#).

In a placebo-controlled trial of 25 healthy subjects, supplementation with pycnogenol (150 mg/day) for 6 weeks reduced LDL-C and increased HDL-C in 66% of the subjects [\[R\]](#).

In a placebo-controlled trial of 46 patients with type 2 diabetes, French maritime pine bark extract (50 mg/day for 8 weeks) reduced total cholesterol [\[R\]](#).

36



Pantethine

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 600-900 mg of pantethine supplement daily, divided into 2 or 3 doses with meals. Continue this regimen for at least 8 weeks to assess effectiveness in lowering cholesterol levels.

TYPICAL STARTING DOSE
600 mg

Description

Pantethine is a form of vitamin B5 that aids the body in breaking down fats and proteins necessary for energy production. Its key role is to help your body properly use these nutrients for maintaining a healthy metabolic function. This is crucial for overall health because having a well-functioning metabolism means our body can effectively utilize the food we eat, thereby sustaining all its necessary functions.

How it helps

In 2 placebo-controlled trials of 152 participants at risk of heart disease, supplementation with pantethine (600 mg/day from weeks 1 to 8 and 900 mg/day from weeks 9 to 16) decreased total (by 6 mg/dL, 0.16 mmol/L, or 3%), LDL cholesterol (by 4 mg/dL, 0.10 mmol/L, or 4%), and apoB (by 4 mg/dL, 0.04 g/L, or 5%) [\[R, R\]](#).

In a non-placebo-controlled trial of 216 participants with moderate dyslipidemia, supplementation with pantethine (600 U/day) for 4 weeks reduced total cholesterol, non-HDL cholesterol, and triglycerides. However, coQ10 was more effective [\[R\]](#).

The combination of pantethine (600 mg/day) and probucol (500 mg/day) taken for 8 weeks lowered total cholesterol while increasing HDL cholesterol in a non-placebo-controlled trial of 48 patients with moderate hypercholesterolemia [\[R\]](#).

In 2 placebo-controlled trials of 39 patients with different forms of hyperlipoproteinemia, supplementation with pantethine (900 mg/day) for 28 days **lowered total cholesterol (by 13.5%), LDL cholesterol (by 13.5%), and triglycerides (by 13-30%) while increasing HDL cholesterol (by 10%)** [\[R, R\]](#).

Pantethine (600-1200 mg/day) taken for 7-24 months **lowered total cholesterol and triglycerides** in an uncontrolled trial of 31 CKD patients with dyslipidemia [\[R\]](#).

37

Strength Training

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Engage in strength training exercises, such as weight lifting or bodyweight exercises, for 60 minutes per session, 2 to 3 times per week. Ensure you work all major muscle groups and rest each muscle group for at least 48 hours before exercising it again.

TYPICAL STARTING DOSE

1 hour

Description

Strength training, also called resistance or *anaerobic* training, contracts the muscles against an external resistance for short periods of time. This helps gain muscle strength, tone, and mass. This can include activities like weight lifting, pushups, and crunches.

Strength training, also known as resistance training, is a type of physical exercise that uses resistance to build strength, anaerobic endurance, and size [R]. Some of the most common strength training methods include [R]:

- Weight lifting
- Bodyweight exercises like push-ups, pull-ups, squats, and lunges.
- Resistance bands
- Plyometrics or explosive force exercises

The benefits of strength training are numerous, and include [R]:

- Increased muscle strength
- Improved bone health
- Reduced risk of injury
- Improved balance and coordination
- Enhanced mood
- Boost metabolism

Consult with a doctor before starting any new exercise program, especially if you have any health conditions.

How it helps

Exercise is one of the best things you can do to lower LDL cholesterol. Experts say you should get 150 minutes of exercise a week to help lower cholesterol [R, R, R, R].

A 2019 meta-analysis of 52 studies with n=1551 participants showed that **strength training resulted in a decrease of LDL-C of approximately 17.41 mg/dL** compared to controls [R].

Working out for longer and doing harder exercises may help with LDL cholesterol even more [R, R, R, R].

38



Avocado

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate half to one whole avocado into your daily diet. You can add it to salads, sandwiches, or use it as a healthy fat substitute for spreads or dressings.

Description

Avocado is a nutrient-dense fruit known for its creamy texture and healthy monounsaturated fats. It is packed with vitamins, minerals, and dietary fiber, and may support heart health, skin health, and overall nutrition.

[Avocado](#) is a fruit first cultivated in Mexico in 500 BCE [\[R\]](#), [\[R\]](#).

You can eat it raw in salads, sandwiches, and dips. Avocado oil has recently become popular, but it’s much less nutritious than the whole fruit.

Avocado is rich in antioxidants, vitamins, minerals, and fiber. It may support [\[R\]](#):

- Heart health
- Healthy weight
- Healthy aging

How it helps

Avocados are high in monounsaturated fats, which can help lower your levels of bad (LDL) cholesterol while boosting good (HDL) cholesterol. They also contain dietary fiber, which can help maintain healthy cholesterol levels.

A meta-analysis of 10 studies and 229 participants concluded that consuming avocados lowers LDL-C (by 16.50 mg/dL) and triglycerides (by 27.20 mg/dL) [\[R\]](#).

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Oat Bran

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Incorporate oat bran into your diet by adding 1-2 tablespoons to your breakfast cereal or yogurt daily. You can also use it as an ingredient in homemade bread, muffins, or pancakes. Aim to include oat bran in at least one meal per day for ongoing dietary benefits.

Description

Oat bran is the outer layer of oat grains and is rich in soluble fiber, making it a heart-healthy addition to diets. Consuming oat bran may help lower cholesterol levels and support digestive regularity.

How it helps

According to Mayo Clinic, oat bran may help reduce cholesterol [\[R\]](#).

A meta-analysis of 55 trials with 3900 participants showed that oat bran **decreased LDL by 12.352 mg/dL**. The authors suggested that oat and oat bran are better than other grains at lowering LDL-C [\[R\]](#)

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Spirulina

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 1-8 g of spirulina supplements daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

500 mg

Description

Spirulina is a blue-green algae. It is rich in nutrients like protein, vitamins, and minerals, particularly vitamin B12 and iron, and is a source of antioxidants, chlorophyll, and phycocyanin. It can be found in powdered or tablet form as a supplement, and is often used to boost energy, support the immune system, and enhance overall nutrition. Additionally, spirulina.

[Spirulina](#) is a supplement made from blue-green algae that grows in fresh and marine water [\[R, R\]](#).

Dried spirulina is up to 70% protein. It’s also rich in vitamins, antioxidants, and healthy fats. This makes it a great source of nutrition for both people and livestock [\[R, R, R\]](#).

People use spirulina supplements to reduce [\[R, R\]](#):

- Cholesterol
- Blood pressure
- Blood sugar

How it helps

[Spirulina](#) (1-10 g/day for 6-16 weeks) may help lower LDL cholesterol. Longer supplementation may offer a greater benefit [\[R, R, R, R, R\]](#).

Spirulina may help by reducing how much cholesterol is absorbed from the gut [\[R, R\]](#).

Please note: Use caution when buying spirulina supplements. Buy these products only from trusted providers. Some spirulina products may contain toxic contaminants [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Your ***NPC1L1*** gene variant is linked to higher levels of LDL cholesterol. It may increase the amount of cholesterol your body absorbs. Spirulina may help by reducing cholesterol absorption [\[R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
NPC1L1	rs2072183	GC	

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Cumin

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

To implement this supplement recommendation, take 500 mg of cumin in capsule form daily, preferably with a meal to enhance absorption. It's often recommended to continue this regimen for at least 8 weeks to observe potential health benefits.

TYPICAL STARTING DOSE

500 mg

Description

Cumin is a spice used in cooking and traditional medicine. It contains compounds that may have antioxidant and anti-inflammatory effects.

Cumin (*Cuminum cyminum L.*) is a flowering herb cultivated in the Middle East, India, China, and the Mediterranean area [\[R\]](#).

Cumin seeds are used as a spice and, in traditional medicine, for [\[R, R, R\]](#):

- Diarrhea
- Stomachache
- High cholesterol
- Diabetes

How it helps

Two meta-analyses (the largest one with 8 trials) concluded that supplementation with cumin (25-100 mg/day for 8-12 weeks) lowers LDL cholesterol (by 7 mg/dL) [\[R, R\]](#).

Cumin contains phytosterols that prevent cholesterol absorption in the body. Also, it's rich in antioxidants that reduce inflammation and oxidative stress linked to high cholesterol.

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Bergamot

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Take 500-1000mg of bergamot extract supplements once daily, preferably in the morning with a meal for better absorption.

Description

Bergamot is a citrus fruit known for its aromatic peel, which is used to make essential oils and flavorings. It is sometimes used in aromatherapy and may have potential mood-enhancing effects when diffused or applied topically.

Bergamot (*Citrus bergamia*) is a bitter citrus fruit native to southern Italy. The fruit is inedible due to its sour taste. The peel is used to make essential oil, and the juice is used to make extracts. People use bergamot in food, supplements, and cosmetics [\[R\]](#).

How it helps

Bergamot extract (500-1,300 mg/day for 1-6 months) may help lower LDL cholesterol [\[R, R, R, R, R, R\]](#).

Bergamot may help by [\[R, R, R\]](#):

- Reducing the amount of cholesterol our body makes and absorbs
- Increasing cholesterol clearance

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Chickpeas

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Incorporate chickpeas into your diet by adding them to salads, soups, and stews, or by making hummus. Aim for at least a half-cup serving, 3-4 times a week.

Description

Chickpeas, also known as garbanzo beans, are a good source of fiber, protein, and various vitamins and minerals. They can promote digestive regularity, provide sustained energy, and contribute to overall well-being when included in a balanced diet.

Chickpeas are a good source of minerals like manganese, iron, copper, zinc, and phosphorus, as well as folate and fiber. A ½ cup serving provides 0.9 mg of manganese or 39%DV.

How it helps

In several non-placebo-controlled trials on healthy volunteers, incorporating chickpeas or chickpea-based products into the diet consistently resulted in reductions in LDL cholesterol levels (by 4.6%, 0.2 mmol/L, or 7.3 mg/dL) [\[R, R, R\]](#).

Chickpeas are rich in soluble fiber, which helps lower LDL cholesterol levels by binding to it and removing it from your body. Additionally, they contain plant sterols that inhibit cholesterol absorption.

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Probiotics

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Take a probiotic supplement containing 10 billion or more live cultures once daily, preferably with a meal or as directed by the packaging or a healthcare provider.

TYPICAL STARTING DOSE
10 billion

Description

Probiotics are live beneficial bacteria and yeasts that can support gut health and digestive function when consumed as supplements or found in fermented foods like yogurt and sauerkraut. They may be beneficial to gut health, immune function, blood sugar, and mood.

[Probiotic bacteria](#) are “good” bacteria found mainly in the large intestine. They support your body and mind by [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Maintaining gut health
- Supporting a healthy immune system
- Improving your mood
- Helping to maintain healthy blood sugar

Prebiotics are certain types of fiber and other complex carbs that serve as food for gut bacteria. **They support gut health by helping boost the activity and growth of “good” bacteria** [\[R\]](#), [\[R\]](#).

Prebiotics are also added to foods and supplements. Common prebiotic ingredients are [\[R\]](#), [\[R\]](#):

- Oligo-fructose
- Oligo-galactose
- [Inulin](#)

Mixtures of probiotics and prebiotics are known as **synbiotics** [\[R\]](#).

How it helps

Probiotics (for 2-3 months) may help lower LDL cholesterol. Probiotic products that may help with LDL cholesterol include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Fermented milk products like yogurt and kefir
- Probiotic supplements
- Synbiotic supplements with oligo-fructose as a prebiotic

However, not all studies found this benefit [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Fermented dairy products containing probiotics may offer a greater benefit than supplements in capsule form [\[R\]](#), [\[R\]](#), [\[R\]](#).

Helpful probiotics include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- *Lactobacillus* (e.g. [Lactobacillus acidophilus](#), [L. plantarum](#), and [L. reuteri](#))
- *Bifidobacterium* (e.g. [Bifidobacterium animalis](#))

Products containing more probiotic strains or probiotics at higher concentrations (at least one billion CFU*) may help more [\[R\]](#), [\[R\]](#).

Probiotics may help by:

- Reducing how much cholesterol is made and absorbed [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Increasing cholesterol clearance [\[R\]](#)

*CFU (colony forming units) = the number of active bacteria in one probiotic serving

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Lycopene

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Take a lycopene supplement of 10 to 30 mg per day. It can be consumed with a fat-containing meal to enhance absorption. This supplementation can be ongoing daily to support overall health benefits such as heart health and antioxidant protection.

TYPICAL STARTING DOSE

10 mg

Description

Lycopene is a powerful antioxidant found in tomatoes and other red or pink fruits and vegetables. Consuming lycopene-rich foods may help reduce the risk of chronic diseases and support heart and prostate health.

[Lycopene](#) is a bright red substance that gives color to a number of fruits such as [R](#), [R](#):

- Tomato
- Watermelon
- Papaya
- Apricot

Lycopene has antioxidant properties. It may help support [R](#), [R](#), [R](#):

- Heart health
- Prostate health
- Cognition

How it helps

Twelve studies (13 trial arms) explored lycopene's impact on serum lipids, while four studies assessed its effect on blood pressure. A meta-analysis found that lycopene, at dosages ≥ 25 mg, significantly reduced total serum cholesterol (by 7.55 mg/dL) and LDL cholesterol (by 10.35 mg/dL) [R](#).

46



Almonds

IMPACT

2 / 5

EVIDENCE

4 / 5

How to implement

Incorporate a handful of almonds (about 23 kernels) into your daily diet. You can eat them as a snack, add them to your breakfast cereals or yogurt, or include them in salads and other dishes. Do this consistently for ongoing health benefits.

Description

Almonds are a good source of omega-6s, protein and vitamins, making for a great snack food. A 1-ounce serving provides 3700 mg of omega-6.

Almonds are nutritious tree nuts that originate from the *Prunus dulcis* tree. They are packed with essential nutrients, including healthy fats, fiber, vitamin E, and magnesium, which collectively contribute to heart health, support weight management, and may help regulate blood sugar levels.

How it helps

A 2021 systematic review of 37 meta-analyses showed that almonds (60 g/day) demonstrated a high degree of evidence for reducing LDL [\[R\]](#).

A meta-analysis of 15 trials and 534 participants concluded that almonds (25-113 g/day for 4-16 weeks) decrease LDL cholesterol (by 5.83 mg/dL) [\[R\]](#).

A 2016 systematic review and meta-analysis of 18 studies showed that almond consumption significantly decreased LDL-C by 4.78 mg/dL [\[R\]](#).

A 2009 meta-analysis of 5 RCT and 142 participants concluded that almonds non-significantly influenced LDL-C to trend down by 5.69 mg/dL [\[R\]](#).

A 2020 meta-analysis of 34 trials and n=1677 participants showed that nuts significantly decreased TC and LDL C. Pistachio-based diets decreased LDL-C the most, and almonds the second most [\[R\]](#).

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Soy

IMPACT

2 / 5

EVIDENCE

4 / 5

How to implement

Incorporate soy-based products such as tofu, soy milk, and edamame into your daily diet. Aim for at least one serving per day, equivalent to about a cup of soy milk, a half-cup of cooked soybeans, or a 3-ounce piece of tofu.

Description

Soy is a legume native to East Asia, and its health benefits include being a source of plant-based protein, fiber, and various vitamins and minerals. It is known for its potential to support heart health, reduce cholesterol levels, and provide essential nutrients in vegetarian and vegan diets.

Soy is a common food in many cuisines around the world, especially Asian cuisines [\[R\]](#).

It’s a great source of [\[R\]](#), [\[R\]](#):

- Plant-based protein
- Fiber
- Omega-3 fats
- Antioxidants (isoflavones)

Soy-based foods include [\[R\]](#):

- Soy beverages
- Tofu
- Tempeh
- Edamame
- Miso
- Natto

Soy protein and soy isoflavones are also available as supplements.

How it helps

Soy may help decrease LDL cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Soy products that may help include:

- **Soy protein** (25-30 g/day for 6-9 weeks) [\[R\]](#), [\[R\]](#)
- **Soy isoflavones** (around 100 mg/day for 1-3 months) [\[R\]](#)

Soy may reduce cholesterol by helping you burn fat [\[R\]](#), [\[R\]](#).

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L-Carnitine

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take 500 mg of L-carnitine supplement daily with a glass of water, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

500 mg

Description

L-carnitine is an amino acid-like compound that plays a role in energy metabolism and helps prevent toxic substances from building up in cells. It is often used in dietary supplements for its potential to support muscle recovery, reduce fatigue, and enhance athletic performance.

[L-carnitine](#) is a compound that helps you burn fat. It also prevents toxic substances from building up in cells [\[R\]](#).

Your body can usually make enough carnitine to meet its needs. You can also get it from **meat and dairy products** [\[R\]](#).

People use L-carnitine for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart problems
- Overactive thyroid
- Fertility problems
- Blood sugar control
- Weight control

How it helps

L-carnitine (500-3,000 mg/day for at least 5 weeks) may help lower LDL cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

However, the evidence is mixed [\[R\]](#), [\[R\]](#), [\[R\]](#).

L-carnitine may help by increasing fat breakdown [\[R\]](#).

49



Blueberries

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Incorporate a half to one cup of fresh or frozen blueberries into your daily diet. You can add them to your breakfast cereal, smoothies, or enjoy them as a snack on their own.

Description

Blueberries are a nutritious fruit packed with antioxidants, vitamins, and fiber. They are known for their potential to support brain health, reduce the risk of chronic diseases, and promote overall well-being.

[Blueberries](#) are enjoyed all around the world for their sweet taste and nutritional benefits. They may support [\[R\]](#):

- Heart health
- Cognitive function
- Normal blood sugar levels

How it helps

A meta-analysis of 21 studies concluded that blueberries improve systolic and diastolic blood pressure, triglycerides, total cholesterol, LDL cholesterol, HDL cholesterol, and insulin levels. Another meta-analysis (12 trials) found that blueberry interventions decreased total and LDL cholesterol, as well as diastolic blood pressure. However, a meta-analysis of 11 studies found that blueberries improved triglycerides but no other cardiovascular risk factors [\[R, R, R\]](#).

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Inulin

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Take 5 grams of inulin supplement daily, mixing it with water, other beverages, or food. It can be taken all at once or divided into smaller doses throughout the day. Start with a lower dose to assess your tolerance and gradually increase. Continue taking inulin daily for at least 4-8 weeks to assess its benefits on gut health.

TYPICAL STARTING DOSE

5 g

Description

Inulin is a type of dietary fiber found in certain plants. It can support digestive health by promoting the growth of beneficial gut bacteria and aiding regular bowel movements.

How it helps

A meta-analysis of 20 RCTs with 607 adults showed that inulin-type fructans significantly lowered LDL-C by 5.79 mg/dL [\[R\]](#).

A 2013 RCT of 49 diabetic women showed that 10 g/d of inulin caused a significant, 35.30% reduction in LDL-c [\[R\]](#).

51



Limit Coffee Intake

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Reduce your coffee consumption to no more than 2-3 cups (approximately 200-300 mg of caffeine) per day. Try to avoid drinking coffee after 2 PM to minimize potential impacts on sleep.

Description

Limiting coffee consumption can help prevent potential side effects like jitteriness, insomnia, and increased heart rate, while allowing for better sleep quality and overall energy regulation. Moderation in coffee intake supports overall well-being without overstimulation.

People often drink coffee for an energy and mood boost [\[R\]](#) [\[R\]](#).

However, **coffee also comes with some drawbacks**. Drinking a lot of coffee can increase blood pressure and anxiety. It may also cause headaches [\[R\]](#) [\[R\]](#) [\[R\]](#).

How it helps

A meta-analysis of 12 RCT studies explored coffee's impact on blood lipid levels. Coffee consumption was associated with increased total cholesterol (TC), triglycerides (TG), and low-density lipoprotein (LDL-C) but had no significant effect on high-density lipoprotein (HDL-C) [\[R\]](#).

In 12 Western studies with 1,017 subjects, drinking coffee for 45 days increased total cholesterol (TC) by 8.1 mg/dl, LDL-C by 5.4 mg/dl, and triglycerides (TG) by 12.6 mg/dl. TC increase was more significant in trials with unfiltered and caffeinated coffee [\[R\]](#).

52



Whole Grains

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Incorporate at least three servings of whole grains into your daily diet. This can include consuming foods such as whole grain bread, brown rice, whole grain pasta, and oats. Aim to replace refined grains with whole grains at each meal for optimal benefits.

Description

Whole grains encompass a variety of grains like wheat, oats, and quinoa, where the entire grain kernel is intact. They are rich in fiber, vitamins, minerals, and antioxidants, supporting heart health and reducing the risk of chronic diseases.

Unlike refined grains, whole grains contain nutritious parts of the grain like bran and germ.

Whole grains provide many crucial nutrients, including:

- Fiber
- B-vitamins
- Iron
- Magnesium
- Phosphorus

Due to their high fiber content, whole grains don’t tend to spike blood sugar like refined grains do.

How it helps

Several studies have found that diets rich in whole grains lead to reductions in LDL cholesterol levels:

1. A study found that consuming whole grains significantly reduced LDL cholesterol by about 11% and improved overall cholesterol levels [\[R\]](#).
2. Another study reported that a diet high in whole grains tends to lower total and LDL cholesterol levels compared to a diet high in refined grains. This effect was noticeable after just two weeks on the whole grain diet [\[R\]](#).
3. Further evidence comes from a controlled trial where participants consuming whole grains showed a greater reduction in LDL cholesterol and total cholesterol compared to those consuming refined grains [\[R\]](#).

53



Cinnamon

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a 1 g cinnamon supplement once daily, ideally with a meal to aid absorption. This can be in the form of a capsule or tablet. Continue this regimen as long as it aligns with your health goals and under the guidance of a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

Cinnamon is a popular spice that may have various health benefits, including improving blood sugar control, reducing inflammation, and providing antioxidants. It's commonly used in both culinary and herbal applications.

[Cinnamon](#) is a spice made from the bark of *Cinnamomum* trees. Cinnamon can [\[R\]](#):

- Decrease inflammation
- Fight [oxidative stress](#)
- Kill microbes

Cinnamon is mainly used in cooking and fragrances. **As a natural remedy, people use cinnamon to reduce blood sugar** [\[R\]](#).

There are two main types of cinnamon [\[R\]](#):

- Ceylon or ‘true’ cinnamon (*Cinnamomum verum*)
- Chinese or Cassia cinnamon (*Cinnamomum cassia*)

How it helps

Multiple studies indicate that cinnamon reduces total cholesterol, triglycerides, LDL cholesterol, and may increase HDL cholesterol, especially in higher doses. However, effectiveness varies by region, with less impact noted in European and American populations. Cinnamon has shown potential in lowering triglycerides, total cholesterol, and LDL cholesterol in people with type 2 diabetes. In women with PCOS, cinnamon appears to lower fasting blood sugar, insulin levels, and improve lipid profiles but does not significantly affect body weight or BMI [\[R, R, R, R, R\]](#).

54



Hazelnuts

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Incorporate a handful of hazelnuts (about 1 ounce or 28 grams) into your diet daily. You can eat them as a snack, sprinkle chopped hazelnuts over salads, or use hazelnut butter in smoothies. Ensure they are unsalted to keep your sodium intake low.

Description

Hazelnuts are a nutrient-dense nut rich in healthy fats, fiber, and essential vitamins and minerals. Incorporating hazelnuts into your diet can support heart health, provide energy, and contribute to overall nutritional wellness.

Hazelnuts are a good source of manganese, magnesium, as well as being really good for vitamin E, B6, and healthy fats. A 1-ounce serving provides 1.6 mg of manganese or 70%DV.

How it helps

A 2021 systematic review of 37 meta-analyses showed that hazelnuts (39 g/day) demonstrated a moderate degree of evidence for reducing LDL [\[R\]](#).

A 2016 meta-analysis of 9 studies and 425 participants found that hazelnut-enriched diets significantly decreased LDL-C by 5.79 mg/dL [\[R\]](#).

55



Oats

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Incorporate oats into your diet daily by having them for breakfast as oatmeal, or adding them to smoothies, baking recipes, or overnight oats. Aim for at least a half-cup (40 grams) of dry oats to reap the health benefits.

Description

Oats are a whole grain known for their high fiber content and nutritional value, like zinc, iron, and manganese. Including oats in one's diet can promote heart health, stabilize blood sugar levels, and provide sustained energy.

Oats are a good source for manganese, zinc, iron, magnesium, and vitamins B1 and B5. A ½ cup serving provides 0.7 mg of manganese or 30%DV.

How it helps

Oats contain a type of fiber known as soluble fiber, specifically beta-glucans, that can lower LDL cholesterol. This fiber attaches to LDL cholesterol in the digestive system and aids in its removal from the body, reducing overall levels.

Two meta-analyses (the largest one with 59 trials) found that oats interventions lower LDL cholesterol by 0.29-0.51 mmol/L [\[R\]](#), [\[R\]](#).

A meta-analysis of 16 studies found that oat intake reduces LDL cholesterol by 0.29 mmol/L in diabetic patients [\[R\]](#).

56



Rice Bran Oil

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Incorporate rice bran oil into your diet by using it as a cooking oil for frying, sautéing, or salad dressings. Aim for replacing other cooking oils with rice bran oil, using it approximately 1-3 tablespoons daily, depending on your total calorie intake and dietary needs.

Description

Rice bran oil is a cooking oil extracted from rice bran and is known for its high smoke point and heart-healthy monounsaturated fats. It's a good source of vitamin E and may provide benefits for blood sugar and cholesterol.

Rice bran is the layer that surrounds a grain of rice. The oil from rice bran is used in cooking or supplements [\[R\]](#).

Rice bran oil may help [\[R\]](#):

- Decrease cholesterol levels
- Maintain healthy blood sugar levels

How it helps

Rice bran oil (18-50 g/day for 3-12 weeks) may help lower LDL cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Rice bran oil extracts, such as **gamma oryzanol**, may also help [\[R\]](#), [\[R\]](#), [\[R\]](#).

Rice bran oil may help by reducing how much cholesterol our body makes and absorbs [\[R\]](#), [\[R\]](#).

57



Plums

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Incorporate 2-3 plums into your daily diet, either as a fresh snack or sliced into salads or cereals. For dried plums (prunes), 2-4 prunes per day are recommended, ideally soaking them overnight in water to improve digestibility.

Description

Plums are a type of fruit that are packed with vitamins and minerals, such as vitamin C and potassium. They are also high in fiber, which can help to keep your digestive system healthy. Including plums in your diet can benefit your overall health by providing essential nutrients and aiding in digestion.

How it helps

Nine eligible articles were analyzed, revealing that plum supplementation significantly reduces LDL-c levels in the overall sample and specific subgroups (e.g., dried plum, unhealthy subjects, >8 weeks duration). It also reduces TC levels in unhealthy subjects but has no significant effect on TG or HDL-c levels [\[R\]](#).

In a study with 16 participants, consuming a high-fat, high-energy meal with Queen Garnet Plum juice or apricot juice did not result in significant post-meal differences in blood pressure, triacylglycerol, total cholesterol, oxidative markers, or inflammatory cytokines. Microvascular perfusion also showed no significant differences between the two treatments [\[R\]](#).

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Mediterranean Diet

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Description

The [Mediterranean diet](#) is based on the traditional cuisine from the Mediterranean regions. It moderates the intake of red meat and dairy, while being rich in fruits and vegetables, whole grains, and healthy fats ([olive oil](#)).

The [Mediterranean diet](#) focuses on traditional cuisine from the Mediterranean regions. It’s rich in [\[R\]](#):

- [Olive oil](#)
- Fruits and vegetables
- Whole grains
- Nuts and seeds
- Fish

This type of diet may **reduce inflammation and protect the brain and heart** [\[R, R, R, R\]](#).

Limited intake of animal products, saturated fat, and refined sugar likely contribute to the health benefits of the Mediterranean diet [\[R\]](#).

How it helps

The Mediterranean diet may help lower LDL cholesterol. However, the evidence is mixed [\[R, R, R, R, R, R\]](#).

The Mediterranean diet may be a good choice because it is:

- Low in saturated fat [\[R\]](#)
- Focused on healthy fat sources like olive oil and fish [\[R\]](#)
- Rich in fiber [\[R\]](#)

Experts agree that the Mediterranean diet may help reduce the risk of heart disease [\[R, R, R\]](#).

59



Chlorella

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take 3 to 5 grams of chlorella in tablet or powder form daily, ideally before meals to improve digestion. Continue this supplementation for at least 2 to 3 months to observe benefits.

TYPICAL STARTING DOSE

3 g

Description

Chlorella is a microalga from freshwater. People consume chlorella in rice, pancakes, or tea. It can also be found as a supplement [R, R].

Chlorella is **rich in protein** and several micronutrients. It may be useful to [R, R, R, R, R, R, R, R]:

- Reduce blood sugar
- Lower cholesterol
- Reduce blood pressure
- Improve immunity

How it helps

A meta-analysis of 19 trials and 797 participants concluded that administration of chlorella (over 4 g/day for at least 8 weeks) reduces LDL-cholesterol (by 8.32 mg/dL) [R].

In a 12-week placebo-controlled trial of 106 people with metabolic syndrome, the combination of chlorella, [red yeast rice](#), [bitter melon](#), soy protein, and [licorice](#) reduced LDL-cholesterol (by 0.7 mmol/L) [R].

In a placebo-controlled trial of 63 people with hypercholesterolemia, supplementation with chlorella (5 g/day) for 4 weeks reduced total cholesterol by 1.6%. Chlorella lowered the levels of VLDL, apoB-LDL, and [non-HDL cholesterol](#). LDL and HDL levels did not change significantly [R].

The same dose prevented increases in LDL and total cholesterol from a diet with 510 mg/day cholesterol in a placebo-controlled trial of 34 healthy volunteers [R].

Chlorella may help with hypercholesterolemia by altering the expression of genes involved in fat metabolism, as seen in a non-placebo-controlled trial of 34 people [R].

60



Ginger

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a 500 mg ginger supplement daily, preferably with a meal to enhance absorption and minimize potential stomach discomfort.

TYPICAL STARTING DOSE

500 mg

Description

Ginger is a versatile spice known for its potential anti-inflammatory and digestive benefits. It may help alleviate nausea, reduce muscle soreness, and support gastrointestinal comfort when consumed as part of a balanced diet.

[Ginger root](#) is a cooking spice and a traditional remedy. People mostly use it to relieve [\[R\]](#):

- Nausea
- Menstrual cramps
- Joint pain

How it helps

Ginger contains antioxidants that can lower your LDL cholesterol levels. It works by reducing the overall cholesterol in the blood and liver, thereby maintaining heart health.

A meta-analysis of 9 studies concluded that supplementation with ginger increases HDL by 1.16 mg/dL [\[R\]](#).

A meta-analysis of 26 trials found that supplementation with ginger lowers LDL and increases HDL. Both doses below and above 1500 mg/day and durations above or below 8 weeks were equally effective [\[R\]](#).

In overweight and obese participants, ginger raises HDL but has no effect on total and LDL cholesterol according to a meta-analysis of 14 trials and 473 participants [\[R\]](#).

Conversely, a meta-analysis found ginger only lowers total cholesterol but has no effect on LDL or HDL [\[R\]](#).

A meta-analysis of 3 trials concluded that supplementation with ginger improves liver levels of cholesterol (by 5.60 mg/g) and serum levels of LDL (by 3.94 mg/dL), total cholesterol (by 3.45 mg/dL), and HDL (by 1.27 mg/dL) in patients with NAFLD [\[R\]](#).

61



Practice Exercise Snacks

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Integrate short bursts of physical activity, each lasting about 1 to 2 minutes, into your daily routine at least two to three times a day. These 'exercise snacks' can include activities like doing a set of stairs, rapid bodyweight exercises, pull-ups, push-ups, sit-ups, or brisk walking.

TYPICAL STARTING DOSE

1 minutesute

Description

Staying physically active is essential for maintaining overall health and well-being. **Exercise snacks** are brief, frequent bursts of physical activity integrated into daily routines, helping combat the health risks associated with prolonged sitting and sedentary behavior, such as obesity and cardiovascular issues. Examples include taking the stairs or doing quick exercises during work breaks.

Staying active can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

Exercise snacks are short, quick bursts of physical activity performed throughout the day, designed to break up prolonged periods of sitting or inactivity. These brief bouts of exercise can be as short as a few minutes and are incorporated into daily routines to boost overall physical activity levels.

Exercise snacks are crucial for health because they combat the negative effects of sedentary behavior, such as prolonged sitting, which is associated with an increased risk of obesity, cardiovascular diseases, diabetes, and musculoskeletal issues. They help improve blood circulation, regulate blood sugar levels, and enhance mood and cognitive function.

Examples of exercise snacks include taking the stairs instead of the elevator, doing a few minutes of bodyweight exercises (e.g., squats or push-ups) during work breaks, or walking briskly for a few minutes after meals. These short, frequent bursts of activity contribute to a more active lifestyle and can significantly benefit overall health by reducing the risks associated with excessive sitting.

How it helps

Exercise is one of the best things you can do to lower LDL cholesterol. Experts say you should get 150 minutes of exercise a week to help lower cholesterol [\[R, R, R, R\]](#).

One study showed that burst exercise, consisting of multiple short-duration, high-intensity sessions, resulted in a significant reduction in LDL cholesterol levels compared to moderate-intensity continuous training in patients newly diagnosed with type 2 diabetes. The reduction was quantified as an 11% decrease in LDL cholesterol levels in the burst exercise group [\[R\]](#).

Exercise may help lower LDL cholesterol by helping your muscles use fat as energy [\[R\]](#).

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Alpha-Lipoic Acid

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take 600-1800 mg of alpha-lipoic acid daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

100 mg

Description

[Alpha-lipoic acid](#) is a natural antioxidant found in almost every cell in your body. People use alpha-lipoic acid to help with issues like skin aging, weight loss, and high blood sugar [\[R, R, R\]](#).

People use alpha-lipoic acid to help with [\[R, R, R, R\]](#):

- Complications of high blood sugar
- Skin aging
- Weight loss
- Carpal tunnel syndrome

How it helps

Two meta-analyses (the largest one with 12 studies and 770 participants) concluded that supplementation with [alpha-lipoic acid](#) (300mg-1200 mg for 2-20 weeks) lowers LDL cholesterol (by 9.22-12.91 mg/dL). LDL levels improved especially in [\[R, R\]](#):

- Obese participants
- Doses >600 mg/d
- Durations between 10-12 weeks

Alpha-lipoic acid may have similar effects on LDL (SMD -0.44) in people with metabolic diseases such as type 2 diabetes according to a meta-analysis of 24 trials. However, in this meta-analysis, alpha-lipoic acid was often combined with other interventions such as inositol [\[R\]](#).

A more recent meta-analysis of 17 RCTs and healthy or chronically ill participants found that ALA (300 to 1,200 mg/d for 1-12 months) yielded inconsistent results on LDL [\[R\]](#).

63



Paleo Diet

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Adopt a diet that includes lean meats, fish, fruits, vegetables, nuts, and seeds, resembling the diet of our hunter-gatherer ancestors. Exclude all dairy products, legumes, grains, added sugar, and processed foods. This should be a consistent dietary approach, not a short-term diet, to observe its benefits on health and well-being.

Description

The paleo diet, also known as the caveman diet, emphasizes whole foods such as lean meats, fish, fruits, vegetables, nuts, and seeds while excluding processed foods, grains, and dairy. It is believed to support weight management and reduce the risk of chronic diseases by focusing on foods more in line with our ancestors' diets.

How it helps

A 2021 meta-analysis of 10 articles showed that the paleolithic diet significantly reduced LDL-C by 13.51 mg/dL [\[R\]](#).

A 2021 meta-analysis of 21 RCTs showed that the paleo diet significantly lowered LDL in athletes [\[R\]](#).

A 2019 meta-analysis of 8 studies showed that the paleo diet significantly lowered LDL [\[R\]](#).

64



Canola Oil

IMPACT

2 / 5

EVIDENCE

3 / 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 was most effective oil at lowering cholesterol in a meta-analysis of 27 trials and 1,539 participants. It lowered LDL-C by 6.4 mg/dL [\[R\]](#).

In another meta-analysis (of 42 studies), canola oil significantly decreased TC by 8.878 mg/dL, more than other oils [\[R\]](#).

65



Resistant Starch

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Incorporate 40g of Jo's resistant starch into your daily diet. This can be done by adding it to smoothies, yogurt, or baked goods. Ensure to spread the intake throughout the day for better tolerance.

TYPICAL STARTING DOSE

40 g Hi-Maize

Description

Resistant starch is a type of starch that resists digestion in the small intestine, making it a prebiotic fiber that can benefit gut health. It can be found in foods like green bananas, legumes, and certain grains.

[Resistant starch](#) is starch that doesn't get digested in the small intestine [\[R\]](#), [\[R\]](#).

Some types of resistant starch include [\[R\]](#):

- **Type 1** occurs naturally in foods such as whole grains
- **Type 2** can be isolated from foods such as corn and green banana
- **Type 3** is created during the cooking and cooling process of starchy foods like potatoes

Resistant starch doesn't increase blood sugar like typical digestible starches do [\[R\]](#), [\[R\]](#).

Instead, it feeds good bacteria in the colon that [\[R\]](#), [\[R\]](#):

- Support healthy gut function
- Support immunity
- Reduce inflammation

How it helps

Supplementation with resistant starch (10-30 g/day for 4-12 weeks) may reduce LDL cholesterol. It may help both healthy people and those with metabolic syndrome [\[R\]](#), [\[R\]](#).

Resistant starch fermentation in the gut produces short-chain fatty acids that inhibit cholesterol production [\[R\]](#).

66



Fenugreek

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a 500 mg fenugreek supplement daily, preferably with a meal to aid in digestion and absorption.

TYPICAL STARTING DOSE

500 mg

Description

Fenugreek is an herb and spice commonly used in traditional medicine for its potential to support digestive health, regulate blood sugar levels, and promote lactation in nursing mothers. Its compounds, such as soluble fiber and fenugreek seeds, contribute to its various health benefits.

[Fenugreek](#) is a leafy green legume originating from central Asia. Its leaves and seeds are both used in cooking. Some people also use the seeds to make tea [[R](#), [R](#)].

People use fenugreek tea or supplements for [[R](#), [R](#), [R](#), [R](#)]:

- Reproductive health
- Blood sugar control
- Decreasing cholesterol

How it helps

The following fenugreek products may help lower LDL cholesterol [[R](#), [R](#), [R](#)]:

- Seed powder
- Seed extract
- Leaf powder

Fenugreek may make it harder to absorb cholesterol from food. It’s also high in healthy fats and dietary fiber, which help lower cholesterol [[R](#), [R](#)].

67



Chitosan

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take 500 mg of chitosan supplement with water just before meals, up to three times daily. For best results, use consistently before lunch and dinner.

TYPICAL STARTING DOSE

500 mg

Description

Chitosan is a dietary supplement derived from the shells of crustaceans like shrimp and crabs. It's sometimes used to support weight management by potentially reducing fat absorption in the digestive tract

[Chitosan](#) is made from chitin, a compound found in shellfish, fungi, and insects. Doctors mainly use products with chitosan to heal wounds [\[R\]](#).

Chitosan may help [\[R, R, R, R\]](#):

- Lower blood pressure
- Promote weight loss
- Control cholesterol levels
- Support oral health

How it helps

Chitosan (125-3,000 mg/day for up to 2-12 months) may help lower LDL cholesterol [\[R, R, R, R, R, R, R\]](#).

However, some studies didn't find a significant benefit [\[R, R, R\]](#).

Chitosan may help by reducing how much cholesterol is absorbed in the gut [\[R\]](#).

Please note: *Be cautious when using chitosan if you are allergic to shellfish. Some products may contain shellfish proteins.*

68



Lactobacillus Plantarum

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Take a probiotic supplement containing *Lactobacillus plantarum* 299V daily. The typical dosage is 10 billion colony-forming units (CFUs). Continue for at least 4 weeks to assess benefits on digestive health.

TYPICAL STARTING DOSE
10 billion CFU

Description

[Lactobacillus plantarum](#) is a [probiotic](#) bacterium found in many fermented plant products such as sauerkraut, pickles, brined olives, and Korean kimchi [\[R\]](#).

People take *L. plantarum* supplements to improve [\[R, R, R, R\]](#):

- Diarrhea
- Skin appearance
- IBD
- High cholesterol

How it helps

Supplementation with [probiotics](#), including fermented milk products and probiotic supplements, for at least 8 weeks can lower LDL cholesterol (-7.34 mg/dL) according to 5 meta-analyses. LDL changed especially in trials examining *Lactobacillus Acidophilus strain*, *L. plantarum*, *Bifidobacterium strains* or *L. reuteri* [\[R, R, R, R, R\]](#).

Potentially helpful [L. plantarum](#) strains include: CECT7527, CECT7528, CECT7529, ECGC13110402, Q180, and A7 [\[R, R, R, R, R\]](#).

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Lactobacillus Reuteri

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Take a supplement containing *Lactobacillus reuteri* daily, ideally choosing a product that specifies CFU (colony-forming units) to ensure you receive an effective dose. Dosage can vary depending on the specific product, but it's typically around 10 billion CFUs. Continue taking the supplement for at least 4 to 8 weeks to evaluate its benefits for your gut health.

TYPICAL STARTING DOSE
10 billion CFU

Description

Lactobacillus reuteri is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

Lactobacillus reuteri is a [probiotic](#) bacterium that is part of the normal [microbiome](#) of the gut, skin, urinary tract, and, occasionally, the stomach [\[R\]](#).

L. reuteri is also used as a probiotic. People take it to help with [\[R, R, R, R\]](#):

- High cholesterol
- Gut diseases
- Constipation
- Helicobacter pylori infections

In the 1960s, **30-40 percent** of people had *Lactobacillus reuteri* as a part of their microbiome. Today, estimates suggest it is found in only **10-20 percent** [\[R, R\]](#).

How it helps

Supplementation with [probiotics](#), including fermented milk products and probiotic supplements, for at least 8 weeks can lower LDL cholesterol (by 0.22-0.26 mmol/L, -7.34 mg/dL) according to 5 meta-analyses. LDL changed especially in trials examining *Lactobacillus Acidophilus strain*, *L. plantarum*, *Bifidobacterium strains* or *L. reuteri* [\[R, R, R, R, R\]](#).

L. reuteri strains NCIMB 30242 and ADR-1 were able to reduce cholesterol in clinical trials [\[R, R, R\]](#).

70



Green Tea Extract

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a green tea extract supplement containing 250-500 mg of EGCG (the active compound in green tea) daily, preferably with a meal to enhance absorption. This dosage is typically split into two separate doses, taken in the morning and later in the day. Continue this regimen for at least three months to observe potential health benefits.

TYPICAL STARTING DOSE

250 mg

Description

Green tea extract is a concentrated form of the beneficial compounds found in green tea, such as catechins. It is used in dietary supplements for its potential to enhance metabolism, aid in weight management, and provide antioxidant protection.

[Green tea](#) is made from the same plant as black tea (*Camellia sinensis*). However, the leaves and buds are processed differently [\[R\]](#).

Green tea contains **catechins**. These are antioxidants that help prevent [oxidative stress](#) [\[R\]](#).

EGCG is the main catechin found in green tea. It may help reduce inflammation and support weight loss [\[R\]](#).

How it helps

Green tea extract has shown efficacy in reducing LDL cholesterol in various human studies:

1. A randomized, double-blind, crossover clinical trial found that overweight and obese women with high LDL cholesterol experienced a 4.8% reduction in LDL cholesterol after 6 weeks of GTE supplementation [\[R\]](#).
2. Another study demonstrated that a theaflavin-enriched green tea extract significantly lowered LDL cholesterol by 16.4% in participants with mild to moderate hypercholesterolemia [\[R\]](#).
3. A one-year study with high catechin green tea extract showed a significant reduction of LDL cholesterol by 4.1% in healthy postmenopausal women, highlighting its prolonged efficacy [\[R\]](#).
4. A study found that green tea extract (250 mg/day for 4 months) significantly reduced LDL-cholesterol by 4.5% and total cholesterol by 3.9% in patients on a low-fat diet over eight weeks, showcasing its potential as part of dietary strategies for managing dyslipidemias.

Please note: polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea [\[R\]](#).

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Red Clover

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a red clover supplement in the form of capsules, typically ranging from 40 to 80 milligrams daily. This should be done under the guidance of a healthcare provider, especially if you're using it for menopausal symptoms or bone health, to ensure it's appropriate for your individual needs. Generally, it's used for periods ranging from 3 to 12 months.

TYPICAL STARTING DOSE

40 mg

Description

Red Clover is a plant that's often utilized for its health benefits. Not just pleasing to the eyes with its bright color, it's known to help with skin health and menopause symptoms. Additionally, it may improve heart health and bone density. It's like a power-plant, offering multiple health benefits in one package.

How it helps

Three meta-analyses (the largest one with 12 trials and 1284 women) concluded that supplementation with red clover for 1-18 months lowers LDL-cholesterol by 5.02-10.61 mg/dL in perimenopausal and postmenopausal women [\[R\]](#), [\[R\]](#), [\[R\]](#).

In a placebo-controlled trial of 46 men, supplementation with red clover isoflavones enriched in biochanin (40 mg/day) for 6 weeks lowered LDL-cholesterol by 0.38 mmol/L [\[R\]](#).

Red clover contains isoflavones that act like estrogen in the body, which may help reduce LDL cholesterol levels while increasing HDL cholesterol.

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Synbiotics

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a synbiotic supplement that combines both prebiotics and probiotics daily, ideally with a meal. The specific dosage depends on the product, but generally ranges from 1 to 10 billion CFUs for probiotics. Consult the product's label for exact dosing instructions and continue use for at least 4 weeks to assess effectiveness.

Description

Synbiotics are dietary supplements that combine probiotics (beneficial bacteria) and prebiotics (fiber) to support gut health. They help maintain a balanced gut microbiome and digestive well-being.

How it helps

A meta-analysis of 9 RCTs with 344 participants with metabolic syndrome found improvement in lipids with synbiotic supplementation. These supplements reduced LDL (-9.21 mg/dL, up to -11.41 mg/dL), especially with multistrain products [\[R\]](#).

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Cupping Therapy

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

To practice cupping therapy as part of your lifestyle, schedule sessions with a qualified therapist once or twice a month to address specific concerns or for general wellness. Each session usually lasts between 5 to 15 minutes. Consistent treatment over several months may yield the best results.

TYPICAL STARTING DOSE

15 minutes

Description

Cupping therapy is an alternative therapy that involves placing cups on the skin to create suction. Some believe it may help with pain relief and muscle tension.

How it helps

A meta-analysis of 5 studies and 489 patients concluded that cupping therapy reduces LDL cholesterol, but not other lipids, in patients with metabolic syndrome. Cupping (1x/week for 3 weeks) also lowered LDL cholesterol and the LDL:HDL ratio in a non-placebo-controlled trial of 47 healthy men not included in the meta-analysis [\[R\]](#), [\[R\]](#).

74



Apple Pectin And Citrus Pectin

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a daily supplement containing of apple and citrus pectin (500 mg each), ideally with a meal to aid in its absorption. This regimen can be continued on a long-term basis to support dietary fiber intake and digestive health.

TYPICAL STARTING DOSE

500 mg

Description

Apple and citrus pectin are types of dietary fiber found in apples and citrus fruits. They are known for their potential to support digestive health and helping to lower cholesterol levels.

How it helps

Two crossover studies in mildly hyper-cholesterolemic individuals showed that 15g/day of pectin (citrus or apple, DE-70) lowered LDL cholesterol by 7-10% compared to control [\[R\]](#).

Apple and citrus pectin are dietary fibers that can bind to LDL cholesterol in the gut, preventing its absorption into the bloodstream.

75



Myo-inositol

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take 2 grams of myo-inositol supplement orally twice a day, preferably with meals to enhance absorption. This regimen should be followed daily for at least 6 months to observe significant benefits.

TYPICAL STARTING DOSE

4 g

Description

Myo-inositol is a naturally occurring compound that plays a role in various cellular functions. It is used in dietary supplements and is believed to have potential benefits for mental health, hormone regulation, and insulin sensitivity.

Inositol is a type of sugar that our bodies need to function. It was considered a vitamin (vitamin B8) until it was discovered that our bodies can make it from another common sugar, glucose [\[R\]](#).

[Myo-inositol](#) is the most common form of inositol. It plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart health
- Normal blood sugar levels
- Mental health
- Cognitive function
- Reproductive health

Myo-inositol can convert to [D-chiro-inositol](#) in the body. These two forms of inositol are often combined in supplements. People use them to improve blood sugar control and PCOS [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

Myo-inositol has been studied for its effects on LDL cholesterol, showing some positive outcomes, especially when combined with other substances:

- In women with polycystic ovarian syndrome (PCOS), a combination of myo-inositol and D-chiro-inositol significantly improved LDL cholesterol levels, from 3.50 ± 0.8 mmol/L to 3 ± 1.2 mmol/L, indicating a beneficial effect on lipid profiles [\[R\]](#).
- Another study found that myo-inositol treatment in hyperlipidemic subjects with metabolic syndrome resulted in significant decreases in atherogenic cholesterol, including small dense LDL (sdLDL), which are particularly harmful to cardiovascular health [\[R\]](#).
- Myo-inositol treatment significantly reduced hirsutism, hyperandrogenism, and improved metabolic profile (including LDL cholesterol) in women with hirsutism [\[R\]](#).
- A meta-analysis of 14 RCTs shows inositol supplementation significantly reduces LDL-cholesterol in patients with metabolic diseases (SMD -1.31), with no impact on HDL-cholesterol [\[R\]](#).

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Lactobacillus Paracasei

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take a supplement containing Lactobacillus paracasei daily, with a dose of around 10 billion colony-forming units (CFUs). Consume the supplement with or without food, but consistently at the same time each day for at least 4 weeks to observe beneficial effects.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus paracasei is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

[Lactobacillus paracasei](#) is a type of bacteria naturally found in the intestine. It is considered a [probiotic bacteria](#), which means “good” bacteria that has health benefits when taken in adequate amounts [\[R\]](#).

L. paracasei is used in the production of the following fermented foods [\[R\]](#):

- Yogurt
- Cheese
- Sauerkraut

It may help [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Improve gut and skin health
- Boost immunity
- Fight allergies

How it helps

Lactobacillus paracasei has been studied for its potential to reduce LDL cholesterol, with some promising findings:

1. In a randomized, double-blind, placebo-controlled clinical trial, *Lactobacillus paracasei* TISTR 2593 significantly reduced serum LDL cholesterol levels in subjects with hypercholesterolemia [\[R\]](#).
2. Another study focused on hypercholesterolemic patients supplemented with *Lactobacillus paracasei*, which resulted in significant reductions in LDL cholesterol levels (15 mg/dL) after 12 weeks [\[R\]](#).

77



Avoid Betaine (TMG) Supplements

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Do not purchase or consume any dietary supplements that list betaine (also known as trimethylglycine or TMG) among their ingredients. Check the labels of supplements you currently use or plan to buy to ensure they are free of betaine.

Description

Avoiding excessive betaine supplements is recommended, as very high intake may have potential side effects. Betaine can be obtained naturally from foods like beets and spinach without the risk of overconsumption.

How it helps

A meta-analysis of 6 randomized placebo-controlled trials found that betaine supplementation (at least 4 g/day for 6-24 weeks) may increase total cholesterol (0.34 mmol/L) [\[R\]](#).

A meta-analysis found that betaine supplementation (≥ 4 g/day) intended to lower homocysteine may increase total cholesterol (by 14.12 mg/dL), low-density lipoprotein (by 10.26 mg/dL), dimethylglycine (DMG), and methionine. Doses of 4 g/day did not cause any adverse effect on lipid profiles [\[R\]](#).

78



Gymnema

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take a gymnema supplement containing 200 to 400 mg of gymnemic acids daily, ideally with a meal to potentially aid in reducing sugar absorption in the intestines. The duration can vary, but many users incorporate it into their daily routine for several months to assess its effects on blood sugar levels and cravings for sweets.

TYPICAL STARTING DOSE

200 mg

Description

Gymnema is an herb used in traditional medicine for its potential to support blood sugar control. Some studies suggest it may have benefits for individuals with diabetes, but it's important to consult with a healthcare provider before using it as a supplement.

[Gymnema](#) (*Gymnema silvestris*), also known as cowplant, gurmar, or periploca of the woods, is a plant originally from India. In Ayurvedic medicine, it is known as meshashringi or “the destroyer of sugar” because it temporarily **reduces the taste of sugar** on the tongue [\[R\]](#), [\[R\]](#).

It is traditionally used for [\[R\]](#), [\[R\]](#):

- Diabetes
- Weight loss
- High cholesterol

How it helps

Gymnema sylvestre significantly lowers LDL-cholesterol according to a meta-analysis of 6 studies. However, the authors warned about the high heterogeneity, low quality, and lack of diversity among participants of the included studies [\[R\]](#).

Gymnema may help by reducing the absorption of fats and cholesterol in the intestines.

79



Pecans

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Incorporate about a handful of pecans (roughly 1 ounce or 28 grams) into your daily diet. You can eat them as a snack, sprinkle chopped pecans over salads, or blend them into smoothies. Aim to do this regularly as part of your daily dietary habits to enjoy their health benefits.

Description

Pecans are a type of nut derived from the hickory tree, primarily native to North America. They are rich in nutrients like healthy fats, protein, dietary fiber, and various vitamins and minerals, including vitamin E, manganese, and zinc.

Pecans are a good source of fiber, along with manganese, molybdenum, copper, thiamine, and zinc. A 1-ounce serving provides 1.1 mg of manganese or 48%DV.

How it helps

In various non-placebo-controlled trials on healthy volunteers, older adults, and individuals at risk of cardiovascular disease, pecan consumption had positive effects on cholesterol levels and heart health. When incorporated into the diet, pecans were associated with reductions in total cholesterol (by 0.8 mmol/L or 13.8-20.4 mg/dL), LDL cholesterol (by 0.26-0.32 mmol/L or 13.1-14.3 mg/dL), triglycerides (by 0.14 mmol/L or 13.9 mg/dL), TC/HDL ratio (by 3.92), non-HDL-C (by 14.5-15.1 mg/dL), LDL particle number (by 83 nmol/L), LDL medium (by 18 nmol/L), and apoB (by 0.99 mg/dL), while increasing HDL cholesterol (by 0.06 mmol/L). Pecan-enriched diets showed significant improvements in lipid profiles and cardiovascular risk factors compared to regular diets or dietary modifications. However, supplementing a healthy diet with pecans didn’t further improve lipid profile in patients with coronary artery disease [\[R, R, R, R, R\]](#).

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Maintain Optimal Vitamin D Levels

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE

1000 iu

Description

Vitamin D, often referred to as the "sunshine vitamin," can be synthesized by the skin when exposed to sunlight, as well as being found in fish, eggs, and fortified milk. It helps regulate calcium absorption, promoting strong bones and a healthy immune system. Vitamin D deficiency can lead to conditions like rickets in children and osteoporosis in adults.

Your body needs [vitamin D](#) for strong bones. Vitamin D also plays a role in [\[R\]](#):

- Mood
- Immunity
- Heart health
- Blood sugar control

[Sunlight](#) is our main source of vitamin D. Experts recommend getting at least **5-15 minutes of midday sun, 2-3 times per week**. People with darker skin and those living at high latitudes may need longer periods of sun exposure [\[R, R\]](#).

Foods like fish, eggs, and fortified milk provide small amounts of vitamin D. **People lacking vitamin D should consider taking a supplement** [\[R\]](#).

How it helps

Three different meta-analyses (the most recent one with 41 trials and 3,434 participants) found that [vitamin D](#) supplementation (typically, 400-12,000 IU/day for 2-12 months) lowers LDL cholesterol (by 0.10 mmol/L or SMD 0.15) and total cholesterol (by 1.52 mg/dL or 0.15-0.17 mmol/L) [\[R, R, R\]](#).

However, an older meta-analysis of 12 clinical trials consisting of 1346 healthy and chronically ill participants found that vitamin D (300 IU to 3332 IU for 42 days to 3 years) may even increase LDL (by 3.23 mg/dL) [\[R\]](#)

Vitamin D supplementation (for up to 12 weeks) also lowers LDL cholesterol (by 2.55 mg/dL) and total cholesterol (by 3.74 mg/dL), HDL (by 0.72 mg/dL), in people with type 2 diabetes according to a meta-analysis of 17 studies. Conversely, another meta-analysis of 17 studies found it ineffective at lowering blood cholesterol (LDL, total cholesterol, and HDL) in people with metabolic syndrome [\[R, R\]](#).

In children and adolescents, supplementation with vitamin D did not affect LDL, TC, or HDL levels, but lowered triglycerides by 24.76 mg/dL when given at total doses of at least 200,000 IU according to a meta-analysis of 9 trials [\[R\]](#).

Three meta-analyses (the largest one with 11 trials and 677 participants with PCOS) concluded that vitamin D supplementation lowers LDL (by 5.22 mg/dL), total cholesterol (by 9.09 mg/dL), triglycerides (by 11.88 mg/dL), and VLDL (by 2.43 mg/dL) with ≤4000 IU/day [\[R, R, R\]](#).

In people with NAFLD, 2 meta-analyses (the most recent one with 10 trials and 544 patients) found no effects or only marginal effects of vitamin D supplementation on LDL, total cholesterol, triglycerides, and HDL [\[R, R\]](#).

Co-supplementation of vitamin D (typically, 200-2000 IU/day) and calcium (typically, 500-1000 mg/day) lowers total cholesterol (by 0.81 mmol/L) and blood triglycerides (by 0.5 mmol/L) without affecting LDL or VLDL according to a meta-analysis of 13 studies and 2,304 participants. Similarly, vitamin-D enriched (400-2000 IU) yogurt lowers total cholesterol (by 13.38 mg/dL) and triglycerides (by 30.12 mg/dL) according to a meta-analysis of 9 trials and 655 participants [\[R, R\]](#).

81



Jujube

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take jujube supplements in the form of capsules or extract, generally ranging from 250 mg to 500 mg, once or twice daily. It is recommended to follow the dosage instructions on the product label or consult a healthcare professional for personalized advice. For best results, incorporate into your daily routine for at least 4 to 8 weeks.

TYPICAL STARTING DOSE
250 mg

Description

Jujube is a fruit rich in antioxidants and vitamins. It can support digestive health, provide a source of essential nutrients, and contribute to overall well-being when included in the diet.

How it helps

In a non-placebo-controlled trial of 48 patients with type 2 diabetes, supplementation with dried jujube (30 g/day) for 12 weeks lowered fasting glucose (by 11.36%), triglycerides (by 13.59%), LDL cholesterol (by 7.46%), and CRP (by 24.46%). Similarly, consuming jujube infusion (10 g/100 mL boiling water) 3x/day before meals as an add-on to a balanced diet for 12 weeks lowered HbA1c, total cholesterol (by 5.69 mg/dL), triglycerides (by 16.14 mg/dL), LDL cholesterol (by 13.30 mg/dL), LDL:HDL, and TC:HDL in a non-placebo-controlled trial of 116 patients with type 2 diabetes. In a placebo-controlled trial of 86 obese adolescents with dyslipidemia, supplementation with jujube fruit powder (5 g, 3x/day) for 1 month decreased total and LDL cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#).

82



Guar Gum

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 5-10 grams of guar gum with at least 8 ounces of water. Start with a lower dose to assess your tolerance, then gradually increase as needed. It is best taken before meals, up to three times a day.

TYPICAL STARTING DOSE

5 g

Description

Guar gum is a soluble fiber derived from guar beans and is commonly used as a food thickener and stabilizer. Its ability to slow down digestion and promote a feeling of fullness can be beneficial for managing appetite and supporting digestive health when consumed as part of a balanced diet.

Guar gum is a fiber made from the seeds of the Indian cluster bean (*Cyamopsis tetragonolobus*). It is used in food products to help bind and thicken them [R].

Guar gum may help with blood pressure control and support the immune system [R].

How it helps

Pooled analysis of 19 randomized controlled trials (RCT) revealed that guar gum supplementation led to significant reductions in TC (-19.34 mg/dl) and LDL (-16.19 mg/dl). However, there was no effect on TAG and HDL among adults in comparison with control group [R].

Two meta-analyses assessed the impact of guar gum supplementation on lipid profiles. In a broader analysis across various health conditions, guar gum reduced total cholesterol (TC) by -20.41 mg/dL and low-density lipoprotein cholesterol (LDL-C) by -17.37 mg/dL. In a more specific analysis focused on type 2 diabetes mellitus (T2DM), guar gum lowered TC by -20.32 mg/dL and LDL-C by -14.52 mg/dL, especially at doses ≥20 g/day, which also reduced triglycerides. Guar gum had no significant effect on high-density lipoprotein cholesterol (HDL-C) [R, R].

83

Astaxanthin

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take an astaxanthin supplement daily, with a typical dosage ranging from 4 to 12 mg. It is best taken with a fat-containing meal to enhance absorption.

TYPICAL STARTING DOSE
12 mg

Description

Astaxanthin is a powerful antioxidant found in certain microalgae and seafood. It is known for its potential benefits in reducing oxidative stress, supporting skin health, and promoting eye health.

[Astaxanthin](#) is a naturally-occurring orange-red pigment carotenoid found in algae, shrimp, lobster, crab, and salmon [\[R\]](#).
As an antioxidant, astaxanthin is **10 times stronger than zeaxanthin, lutein and [beta-carotene](#), and 100 times stronger than [vitamin E](#)** [\[R\]](#).
People take astaxanthin to:

- Support skin health [\[R, R\]](#)
- Reduce exercise fatigue [\[R, R\]](#)
- Prevent heart disease [\[R, R, R\]](#)

How it helps

A meta-analysis of 7 studies and 321 participants at risk of metabolic syndrome concluded that astaxanthin significantly lowers LDL cholesterol and marginally lowers total cholesterol and systolic blood pressure [\[R\]](#).

In a placebo-controlled trial of 61 participants with elevated triglycerides, supplementation with astaxanthin (6-18 mg/day) for 12 weeks lowered triglycerides and raised HDL [\[R\]](#).

Astaxanthin (8 mg/day taken for 8 weeks) lowered plasma glucose, triglycerides, visceral fat, VLDL, total cholesterol, and systolic blood pressure in a placebo-controlled trial of 44 patients with type 2 diabetes [\[R\]](#).

A multi-ingredient nutraceutical with astaxanthin, red yeast rice, berberine, policosanol, coenzyme Q10, and folic acid (NComb) lowers total cholesterol (by 26.15mg/dL), LDL-cholesterol (by 23.85mg/dL), triglycerides (by 13.83mg/dL) and glucose (by 2.59mg/dL) while increasing HDL-cholesterol (by 2.53mg/dL) according to a meta-analysis of 14 trials and over 3k participants [\[R\]](#).

84



Soy Lecithin

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take 1-2 grams of soy lecithin supplements daily, either in capsule form or as a powder that can be mixed with food or beverages. Continue this regimen daily for an indefinite period, adjusting dosage as needed based on health goals and medical advice.

TYPICAL STARTING DOSE

1 g

Description

Soy lecithin is a byproduct of soybean processing and is used as an emulsifier in many food products. It contains phospholipids that can support liver health and promote fat metabolism.

How it helps

Studies suggest that soy lecithin supplementation, often in combination with other soy components, reduces LDL cholesterol without negatively impacting HDL cholesterol levels:

- Soy stanol-lecithin reduces cholesterol absorption and LDL cholesterol when consumed in fat-free foods [\[R\]](#)
- Soy supplementation caused a reduction in LDL and total cholesterol in a substudy [\[R\]](#)
- Soy lecithin administration led to a reduction of 42.05% in LDL cholesterol after one month and 56.15% after two months in hypercholesterolemic patients [\[R\]](#)

85



Soy Isoflavones

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take a soy isoflavone supplement containing 40 to 80 milligrams daily, ideally with food to improve absorption. This dosage can be continued on a daily basis for several months, but it's recommended to reevaluate its effectiveness and any potential side effects with a healthcare provider periodically.

TYPICAL STARTING DOSE

40 mg

Description

Soy isoflavones are natural compounds found in soybeans and soy products. They are phytoestrogens, which means they can mimic the effects of estrogen in the body and are associated with potential health benefits like menopausal symptom relief and improved heart health.

Soy is a common food in many cuisines around the world, especially Asian cuisines [\[R\]](#).

It's a great source of [\[R\]](#), [\[R\]](#):

- Plant-based protein
- Fiber
- Omega-3 fats
- Antioxidants (isoflavones)

Soy-based foods include [\[R\]](#):

- Tofu
- Tempeh
- Edamame
- Miso
- Natto

Soy protein and soy isoflavones are also available as supplements.

How it helps

A meta-analysis of 11 studies found that soy isoflavones significantly decreased serum total cholesterol by 0.10 mmol/L (3.9 mg/dL or 1.77%) and LDL cholesterol by 0.13 mmol/L (5.0 mg/dL or 3.58%). No significant changes in HDL cholesterol and triacylglycerol were found [\[R\]](#).

Soy isoflavones may help by promoting cholesterol removal from the body and inhibiting its production in the liver.

86



Macadamia Nuts

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Incorporate a handful of macadamia nuts (about 10-12 nuts or 30 grams) into your daily diet. You can eat them alone as a snack, add them to salads, or use them in baking. Do this regularly as part of a healthy diet to reap the benefits.

Description

Macadamia nuts are a nutrient-dense snack rich in heart-healthy monounsaturated fats, fiber, and antioxidants. Consuming macadamia nuts in moderation can support cardiovascular health, help regulate cholesterol levels, and provide essential nutrients.

How it helps

Consuming a macadamia nut-based diet for 3 weeks decreased LDL cholesterol but also HDL cholesterol in a non-placebo-controlled trial of 71 healthy women. In a non-placebo-controlled trial of 30 healthy volunteers, consuming a macadamia nut-based diet (37% energy from fat) for 30 days was as effective as a Step 1 diet at lowering LDL cholesterol. In a non-placebo-controlled trial of 35 subjects with abdominal obesity, consuming the usual diet plus 15% daily calories of macadamia nuts for 8 weeks non-significantly reduced LDL cholesterol (by 4%), especially in those with lower BMI or body fat [\[R, R, R\]](#).

In an uncontrolled trial of 17 hypercholesterolemic men, consuming macadamia nuts (40-90 g/day) for 4 weeks decreased LDL cholesterol (by 5.3%). Similarly, eating a macadamia nut-based diet (42.5 g/2100 kcal) for 5 weeks lowered LDL cholesterol (by 0.30 mmol/L) and LDL-C:HDL-C (by 0.18) better than a standard American diet in a non-placebo-controlled trial of 25 mildly hypercholesterolemic subjects. However, consuming palmitoleic acid from macadamia nuts for 4 weeks increased LDL cholesterol (by 4%) in a non-placebo-controlled trial of 34 hypercholesterolemic men [\[R, R, R\]](#).

Macadamia nuts are high in heart-healthy monounsaturated fats, which can lower LDL cholesterol while increasing HDL cholesterol.

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Dill

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a dill supplement in capsule form, as directed on the product label, typically once per day with water. Always follow the manufacturer's recommended dosage or the advice of a healthcare professional. It's essential to check the product label for specific dosage information.

Description

Dill is an herb known for its potential to aid digestion and provide antioxidant benefits. It can be used as a flavorful addition to meals and may support digestive comfort.

How it helps

A meta-analysis of 7 trials (330 participants) found that dill supplementation lowered LDL-cholesterol, insulin levels, and insulin resistance, particularly in higher doses and long-term use, but had no impact on total cholesterol, triglycerides, or HDL, except for a drop in fasting blood glucose at 1500 mg/day [R].

In a single-blind, placebo-controlled study with 150 hyperlipidemic patients, enteric-coated anethum tablet (650 mg, 2x/day for 6 weeks) increased triglycerides (by 14.74 mg/dL, 6.0%), without changing total cholesterol and LDL-cholesterol [R].

A single-center, randomized, double-blind, placebo-controlled study with 42 patients with type 2 diabetes found that dill (3 g/day for 8 weeks) decreased insulin, homeostatic model assessment of insulin resistance, LDL-cholesterol, total cholesterol, and malondialdehyde although less than placebo. It also increased HDL-cholesterol, more than placebo, and total antioxidant capacity [R].

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Tyrosol

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a tyrosol supplement of approximately 10 to 50 milligrams per day, ideally with a meal to enhance absorption. Continuous daily intake is recommended for at least 8 to 12 weeks to evaluate benefits.

TYPICAL STARTING DOSE

10 mg

Description

Tyrosol is a phenolic compound found in olive oil and is known for its antioxidant properties. It is used for its potential to protect cells from oxidative damage and support cardiovascular health.

How it helps

A nutraceutical with red yeast rice (10 mg), phytosterols (800 mg), and L-tyrosol (5 mg) taken for 8 weeks improved total cholesterol, LDL-C, ALT, AST, and uric acid in a placebo-controlled trial of 60 patients with hypercholesterolemia [R].

Importantly, consuming olive oil rich in polyphenols such as tyrosol reduced LDL oxidation with a dose-dependent effect in 4 non-placebo-controlled trials of 284 participants. Urinary tyrosol and hydroxytyrosol levels were associaed with lower LDL oxidation [R, R, R, R].

Tyrosol is known to act as an antioxidant, which can help prevent LDL cholesterol from oxidizing, thus reducing the potential for it to build up as plaque in the arteries. This overall helps in the management of LDL cholesterol levels.

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Inositol

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take inositol as a daily supplement, usually available in powder or capsule form. The typical dosage ranges from 2 grams to 18 grams per day, divided into smaller doses taken with meals and water to aid absorption. It's important to start with a lower dose and gradually increase to avoid digestive side effects.

TYPICAL STARTING DOSE

2 g

Description

Inositol is a naturally occurring compound that plays a role in cell signaling and neurotransmitter function. It has been studied for its potential in promoting mental health and managing conditions like anxiety and depression when used as a supplement under the guidance of a healthcare professional.

Inositol is a type of sugar that our bodies need to function. It was considered a vitamin (vitamin B8) until it was discovered that our bodies can make it from another common sugar, glucose [R].

[Myo-inositol](#) is the most common form of inositol. It plays a role in [R, R, R, R]:

- Heart health
- Normal blood sugar levels
- Mental health
- Cognitive function
- Reproductive health

Myo-inositol can convert to [D-chiro-inositol](#) in the body. These two forms of inositol are often combined in supplements. People use them to improve blood sugar control and PCOS [R, R, R].

How it helps

Myo-inositol has been studied for its effects on LDL cholesterol, showing some positive outcomes, especially when combined with other substances:

- In women with polycystic ovarian syndrome (PCOS), a combination of myo-inositol and D-chiro-inositol significantly improved LDL cholesterol levels, from 3.50 ± 0.8 mmol/L to 3 ± 1.2 mmol/L, indicating a beneficial effect on lipid profiles [R].
- Another study found that myo-inositol treatment in hyperlipidemic subjects with metabolic syndrome resulted in significant decreases in atherogenic cholesterol, including small dense LDL (sdLDL), which are particularly harmful to cardiovascular health [R].
- Myo-inositol treatment significantly reduced hirsutism, hyperandrogenism, and improved metabolic profile (including LDL cholesterol) in women with hirsutism [R].
- A meta-analysis of 14 RCTs shows inositol supplementation significantly reduces LDL-cholesterol in patients with metabolic diseases (SMD -1.31), with no impact on HDL-cholesterol [R].

90



Mulberry

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a mulberry supplement at a dosage of 500mg to 1,000mg per day, preferably with meals to enhance absorption. This should be continued daily for at least 3 months to observe potential health benefits.

Description

Mulberries are the fruit of the mulberry tree, often used in traditional medicine and cuisine. It is a source of vitamins and antioxidants, potentially offering health benefits such as blood sugar control and immune support.

How it helps

A meta-analysis of 12 trials concluded that mulberry consumption lowers LDL cholesterol by 8.84 mg/dL [\[R\]](#).

Mulberry is known to block an enzyme in our gut that absorbs cholesterol.

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Hydroxytyrosol And Punicalagin

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take hydroxytyrosol and punicalagin in supplement form, typically available in capsules or tablets. The general dosage for hydroxytyrosol is around 5-10mg per day, and for punicalagin, it is about 300-600mg per day. Consult the specific product's label for exact dosing. It is recommended to take these supplements with a meal to enhance absorption. Continue this regimen daily for at least 8-12 weeks to assess effectiveness.

Description

Hydroxytyrosol is a natural phenolic compound found in extra virgin olive oil. It is known for its antioxidant properties and may contribute to the health benefits associated with the Mediterranean diet. Punicalagin is a polyphenol found in pomegranates and is known for its antioxidant properties. It may contribute to the health benefits of pomegranate consumption, such as heart health and potential anti-cancer effects.

How it helps

In a 20-week placebo-controlled trial with 84 subjects, supplementation of hydroxytyrosol (9.9 mg) and punicalagin (195 mg) significantly reduced LDL cholesterol, oxidized LDL, triglycerides, systolic and diastolic blood pressure, increased HDL cholesterol in all, and FMD in those with endothelial dysfunction. In an 11-day placebo-controlled trial with 36 participants, hydroxytyrosol supplementation (50-100 mg/day) lowered triglyceride levels by up to 21.64% [\[R, R, R\]](#).

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Fasting Mimicking Diet

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Adopt a fasting mimicking diet for 5 consecutive days per month, consuming between 750 and 1,100 calories per day consisting mostly of plant-based soups, vegetables, nuts, seeds, and herbal teas. Ensure adequate hydration. Resume a normal, healthy diet for the remaining days of the month.

Description

The fasting mimicking diet is a dietary approach that involves cycles of fasting and calorie restriction to potentially promote longevity and metabolic health. It is currently an area of research interest for its possible health benefits.

How it helps

In a non-placebo-controlled trial of 100 generally healthy subjects, eating a fast-mimicking diet for 5 consecutive days during 3 months reduced blood pressure and IGF-1. These parameters were more beneficially affected in subjects at risk of disease. In a non-placebo-controlled trial of 100 patients with type 2 diabetes, following a fasting-mimicking diet for 4 months lowered total cholesterol, LDL cholesterol, triglycerides, and blood pressure, while raising HDL cholesterol [\[R, R\]](#).

This diet may help by restricting calories and triggering a metabolic change that prompts your body to use stored fat for energy.

93



Hibiscus

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 250 mg of hibiscus supplement daily, either in the form of a capsule or powder. It can be taken at any time of day, with or without food.

TYPICAL STARTING DOSE
250 mg

Description

Hibiscus is a flower known for its potential to lower blood pressure, boost antioxidant levels, and support heart health. Consuming hibiscus tea or incorporating hibiscus into your diet may provide these health benefits.

[Hibiscus](#) (*Hibiscus sabdariffa*), also known as roselle or sorrel, is a flowering plant. It is traditionally brewed as a tea of a distinctive, bright pink color [\[R\]](#), [\[R\]](#).

For hundreds of years, people from all over the world have taken hibiscus for its potential health benefits [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: *Hibiscus can interact with "water pills" (diuretics) like hydrochlorothiazide. If you are using "water pills", consult your doctor before taking hibiscus.*

How it helps

A systematic review and meta-analysis of 9 trials (503 patients with metabolic syndrome) found *Hibiscus sabdariffa* beneficial for blood lipids. It reduced total cholesterol and LDL cholesterol but not triglycerides. More high-quality trials are needed for confirmation [\[R\]](#).

In a systematic review and meta-analysis of 8 clinical trials, *Hibiscus sabdariffa* reduced fasting plasma glucose and LDL, especially at doses of 500 mg/kg and above, but had no significant effect on total cholesterol, HDL, or triglycerides [\[R\]](#).

In a small study, a hibiscus beverage (ABHS) outperformed 40 mg simvastatin in reducing total cholesterol, but it also significantly lowered simvastatin exposure by 44.6%, suggesting a notable herb-drug interaction. Co-administration is discouraged without more clinical data. [\[R\]](#).

Please note: *Hibiscus may interact with painkillers and anti-inflammatory drugs such as diclofenac and drugs for high cholesterol such as simvastatin. Make sure to consult your doctor before consuming hibiscus* [\[R\]](#), [\[R\]](#).

94



Strawberries

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Incorporate a serving of strawberries, which is approximately eight medium-sized strawberries (about 1 cup or 150 grams), into your daily diet. You can enjoy them as a snack, add them to your breakfast cereal or oatmeal, blend them into smoothies, or use them as a topping for salads and desserts.

Description

Strawberries are a delicious fruit rich in vitamin C, antioxidants, and dietary fiber. They provide essential nutrients and are associated with various health benefits, including improved immune function and heart health.

Strawberries (*Fragaria ananassa*) are one of the most consumed berries, both fresh and processed in juices, jams, yogurts, and desserts [\[R\]](#).

Strawberries have a high content of antioxidants and vitamins, such as [\[R\]](#), [\[R\]](#):

- Vitamin C
- Folate
- Flavonoids

How it helps

A systematic review and meta-analysis of 14 randomized trials showed that strawberry supplementation reduced oxidized LDL, malondialdehyde, C-reactive protein, total cholesterol, and diastolic blood pressure. It raised fasting blood sugar but had no other significant effects on cardiovascular risk factors. A more recent meta-analysis of 11 trials found strawberries reduced CRP but had no impact on blood pressure, lipid profile, or fasting blood glucose in most cases. In a separate study, strawberry powder improved flow-mediated dilation and lowered systolic BP, possibly due to microbial-derived phenolic metabolites. However, another study found no effects on vascular function or postprandial metabolic parameters. Larger, longer-term studies are needed [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

95



Magnesium

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take up to 350 mg of magnesium daily as a supplement, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

250 mg

Description

Magnesium is an essential mineral involved in various bodily functions, including muscle contractions, nerve signaling, and bone health. Maintaining adequate magnesium levels through diet or supplements can support overall well-being and reduce the risk of magnesium deficiency-related health issues.

[Magnesium](#) is an essential mineral. Your body needs it for [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Muscle, nerve, and bone function
- Blood sugar and blood pressure control
- DNA and protein production
- Strong immunity

Women need **310-320 mg** of magnesium per day, while men need **400-420 mg** [\[R\]](#).

Foods rich in magnesium include **nuts, seeds, and leafy greens**. Magnesium is also available as a supplement [\[R\]](#).

How it helps

The pooled analysis of 12 randomized trials indicated that magnesium administration led to a significant reduction of serum LDL cholesterol in diabetic patients [\[R\]](#).

Magnesium supplementation improves fasting plasma glucose, HDL cholesterol, and LDL cholesterol levels according to another meta-analysis. Diabetic individuals with low magnesium levels saw greater benefits [\[R\]](#).

However, magnesium treatment did not significantly impact plasma lipid levels, including total cholesterol, LDL cholesterol, HDL cholesterol, and triglycerides in another meta-analysis [\[R\]](#).

96



Kimchi

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Incorporate about a half cup of kimchi into one of your daily meals. This could be as a side dish or part of the meal for at least one month to observe potential health benefits such as improved digestion.

Description

Kimchi is a fermented vegetable dish commonly consumed in Korean cuisine. It's packed with probiotics and nutrients, which can promote gut health and boost the immune system.

How it helps

In a non-placebo-controlled trial of 100 healthy volunteers, consuming kimchi (15-210 g/day) for 7 days had a dose-dependent lowering effect on fasting glucose, total glucose, TC, and LDL-C. The lipid-lowering effects of kimchi were stronger in people with TC above 190 mg/dL and LDL-C above 130 mg/dL [\[R\]](#).

In a non-placebo-controlled trial of 22 overweight and obese participants, consuming kimchi (both fresh and fermented) for 4 weeks lowered fasting glucose, fasting insulin, and total cholesterol, especially if fermented [\[R\]](#).

In a non-placebo-controlled trial of 21 prediabetic participants, consuming fermented kimchi for 8 weeks decreased insulin resistance and improved glucose tolerance [\[R\]](#).

In a placebo-controlled trial of 40 prediabetic participants, supplementation with the kimchi-derived probiotic *Lactobacillus plantarum* HAC01 for 8 weeks reduced 2h-PPG and HbA1c levels [\[R\]](#).

97



CLA (Conjugated Linoleic Acid)

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 3 to 4 grams of CLA (conjugated linoleic acid) supplements daily, divided into two doses, preferably with meals to enhance absorption. Continue this regimen daily for at least 6 months to potentially see beneficial results.

TYPICAL STARTING DOSE

3 g

Description

CLA is a fatty acid found in meat and dairy products and is often used as a dietary supplement. Some studies suggest that CLA may have potential benefits for weight management and body composition by promoting fat loss and muscle preservation.

[Conjugated linoleic acids](#) (CLA) are **polyunsaturated fats** (PUFAs). They’re mainly found in meat and dairy. People also take them as supplements [\[R\]](#), [\[R\]](#).

CLA supplements are often marketed as weight loss aids [\[R\]](#).

How it helps

CLA supplementation led to a significant decrease in LDL cholesterol (-0.218), but non-significant changes in HDL cholesterol, total cholesterol, and TAG levels were observed [\[R\]](#).

However, two other studies showed no effect on lipid profiles [\[R\]](#), [\[R\]](#).

Please note: *CLA supplementation may increase CRP, a marker of inflammation* [\[R\]](#), [\[R\]](#), [\[R\]](#).

98



Vitamin C

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 500-2000 mg of vitamin C supplement daily. It can be taken at any time of the day, with or without food, according to personal preference or tolerance.

TYPICAL STARTING DOSE

500 mg

Description

[Vitamin C](#) is an essential nutrient. This means that our bodies can’t produce it on their own, so we have to get it from food or supplements [\[R\]](#).

Foods rich in Vitamin C include: [\[R\]](#)

- Citrus Fruits
- Peppers
- Brussel sprouts
- Kiwi
- Broccoli
- Tomato
- Cantaloupe
- Cauliflower
- Spinach

Vitamin C has antioxidant properties. It supports immunity, heart health, and wound healing [\[R\]](#), [\[R\]](#).

Vitamin C deficiency is called *scurvy*. In the past, many sailors suffered from it [\[R\]](#).

How it helps

Vitamin C (125-2,000 mg/day for 3-12 months) may help lower LDL cholesterol. However, some studies found mixed results [\[R\]](#), [\[R\]](#), [\[R\]](#).

Vitamin C may help by preventing cholesterol buildup in the blood vessels [\[R\]](#).

Please note: *Supplementing with vitamin C is linked to a slightly higher risk of kidney stones in men. Talk to your doctor before taking vitamin C* [\[R\]](#), [\[R\]](#).

99



Orange Juice

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Consume 8-ounces (about 240 milliliters) of orange juice daily, preferably in the morning with breakfast. This routine can be followed every day as part of a balanced diet for an indefinite period.

Description

Orange juice is a citrus beverage made from the juice of oranges. It is a rich source of vitamin C and other essential nutrients, contributing to immune support, skin health, and overall well-being.

How it helps

In nine reviewed articles, orange juice supplementation showed no significant effects on TG, TC, or HDL-C levels. However, it significantly reduced LDL-C levels, especially when consuming 500+ ml/day [\[R\]](#).

In ten trials, orange juice significantly lowered glucose, insulin, HOMA-IR, total cholesterol, LDL-C, and CRP compared to controls. These effects were stronger with ≥500 ml/day consumption. No significant impact on body composition or other CVD risk factors was observed [\[R\]](#).

In eight studies, chronic orange juice consumption had a positive effect on systolic blood pressure and HDL-C levels compared to the control group. No significant changes were observed in total cholesterol, TG, LDL-C, glucose, insulin, HOMA-IR, or CRP [\[R\]](#).



PERSONALIZED TO YOUR GENES

Drinking orange juice may lower LDL cholesterol more in people with your [LPL](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
LPL	rs12678919	AA	

100



Probiotic Yogurt

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Consume one to two servings of probiotic yogurt each day. Each serving is typically 6 to 8 ounces. Continue this practice daily for at least 1 to 2 weeks to begin noticing benefits to digestive health.

Description

Probiotic yogurt is a dairy product containing live probiotic cultures like *Lactobacillus* and *Bifidobacterium*, which can aid digestion and improve gut health when consumed regularly. It is a good source of calcium, protein, and probiotics, contributing to bone health and digestive well-being.

How it helps

A study was designed as an 8-week randomized, double-blind, placebo-controlled, parallel study. The functional yogurt NY-YP901 reduced LDL-cholesterol, body weight and BMI in the subjects at a 300-ml consumption daily for 8 weeks [\[R\]](#).

In an 8-week study, two groups of 76 participants consumed either control yogurt (fermented with specific strains) or test yogurt (enriched with *L. lactis* 11/19-B1 and *B. lactis* BB-12 strains). The test yogurt group showed a significant decrease in low-density lipoprotein (LDL), specifically in participants with high LDL levels [\[R\]](#).

Subjects in the intervention group of a study consumed 300 g/day of probiotic yogurt containing *Lactobacillus acidophilus* La5 and *Bifidobacterium lactis* Bb12 and those in the control group consumed 300 g/day of conventional yogurt for 8 weeks. Probiotic yogurt consumption resulted in reductions in serum levels of alanine aminotransferase, aspartate aminotransferase, total cholesterol, and low-density lipoprotein cholesterol [\[R\]](#).

In a randomized double-blind controlled trial, 60 people (23 males and 37 females) with type 2 diabetes and low-density lipoprotein cholesterol (LDL-C) greater than 2.6 mmol/L were assigned to 2 groups. Participants consumed daily 300 g of probiotic yogurt containing *Lactobacillus acidophilus* La5 and *Bifidobacterium lactis* Bb12 or 300 g of conventional yogurt for 6 wk.

Probiotic yogurt improved total cholesterol and LDL-C concentrations in type 2 diabetic people and may contribute to the improvement of cardiovascular disease risk factors [\[R\]](#).

101



Vitamin D and Calcium

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Take 600 IU of vitamin D and 1000 mg of calcium daily. For adults over 70 years, the vitamin D intake should be increased to 800 IU daily. These supplements can be taken together or separately, usually with a meal to enhance absorption, and it is advisable to continue this regimen as part of your daily routine indefinitely unless advised otherwise by a healthcare provider.

Description

Vitamin D plus calcium supplements typically combine vitamin D, often sourced from sunlight exposure or dietary sources, with calcium, primarily found in dairy products and leafy greens. This combination is used to promote bone health, reduce the risk of osteoporosis, and support overall musculoskeletal well-being.

How it helps

In a trial of 70 women with gestational diabetes at 24-28 weeks of pregnancy, supplementation with vitamin D (500-1000 IU/day) and calcium (500-1000 mg/day) reduced fasting glucose. The highest dose also lowered, fasting serum insulin, LDL, and total cholesterol while increasing HDL [\[R\]](#).

102



Broccoli

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Incorporate at least one cup of chopped broccoli, either steamed or raw, into your daily diet. This can be as part of a meal or snack. Continue this practice daily for ongoing health benefits.

Description

Broccoli and broccoli sprouts are nutrient-dense vegetables packed with vitamins, minerals, and antioxidants. They are known for their potential to support a healthy immune system, protect against chronic diseases, and promote overall nutritional wellness.

Broccoli is high in vitamin K and C, as well as a number of other vitamins and minerals, and antioxidants like quercetin. A ½ cup serving provides 110 mcg of vitamin K or 92%DV.

How it helps

Broccoli is rich in fiber and antioxidants which can help lower bad LDL cholesterol levels. By binding to bile acids in your digestive system, the fiber in broccoli promotes the excretion of cholesterol, thereby reducing its levels in your body.

In a placebo-controlled trial of 77 adults with mild to moderate hypercholesterolemia, consuming broccoli and cabbage for 9 weeks lowered LDL cholesterol by 8.5%. High-glucoraphanin broccoli (400 g/day for 12 weeks), but not regular broccoli, lowered LDL-cholesterol by 7.1% in a non-placebo-controlled trial of 130 volunteers [\[R\]](#), [\[R\]](#).

103



Watermelon

IMPACT2 / 5

EVIDENCE1 / 5

How to implement

Incorporate fresh watermelon into your diet, aiming to consume about 1-2 cups of cubed watermelon daily, either as a snack or part of your meals. It is best consumed fresh to maximize its hydrating effects and nutritional benefits.

Description

Watermelon is a refreshing fruit known for its high water content and being a good source of vitamins A and C. It is used to help stay hydrated and may support skin health due to its antioxidant properties.

How it helps

A systematic review and meta-analysis of 9 randomized trials showed that watermelon lowered systolic blood pressure and cholesterol but raised fasting blood sugar. No changes in diastolic blood pressure, heart rate, BMI, body fat, arginine, insulin, or CRP were observed. Longer, larger trials are needed for confirmation [\[R\]](#).

A crossover study with 33 overweight subjects found that consuming 2 cups of fresh watermelon daily for 4 weeks reduced hunger, increased fullness, and led to improvements in body weight, BMI, blood pressure, and antioxidant capacity compared to low-fat cookies [\[R\]](#).

In a double-blind study of 17 young adults, daily consumption of watermelon juice (WMJ) for two weeks improved post-meal blood vessel dilation (FMD), microvascular blood flow (MVBF), and tissue oxygen saturation during high blood sugar conditions compared to a placebo (PLA) drink. WMJ had positive effects on vascular health [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Supplementation with watermelon extract may lower LDL-cholesterol levels more in people with your **MTHFR** gene variant [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
MTHFR	rs1801133	AA	

104



Kefir

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Incorporate kefir into your daily diet by drinking approximately 1-2 cups (240-480 ml) per day. It can be consumed on its own, blended into smoothies, or used as a base for salad dressings or soups. Continuous consumption over several weeks is recommended to observe its health benefits.

Description

Kefir is a fermented dairy product packed with probiotics, which can promote gut health and support digestion. Regular consumption of kefir is associated with improved digestive function and may enhance the immune system.

How it helps

In a non-placebo-controlled trial of 62 participants with metabolic syndrome, consuming kefir (180 mL/day for 12 weeks) increased serum apolipoprotein A1 concentration (by 3.4% vs a 2.4% decrease in those consuming milk). Both milk and kefir reduced LDL cholesterol and apoB concentrations (by 7.6% and 5.4%, respectively, only in those with high LDL cholesterol), blood pressure, and inflammatory markers [\[R\]](#).

105



Grapes

IMPACT

1 / 5

EVIDENCE

3 / 5

How to implement

Incorporate a serving of grapes, which is about 32 seedless grapes or approximately 1 cup, into your daily diet. You can eat them as a snack, add them to salads, or blend them into smoothies. Do this consistently for a period of at least 3 months to observe potential health benefits.

Description

Grapes are a nutrient-dense fruit rich in vitamins, fiber, and antioxidants like resveratrol. Regular consumption of grapes is associated with potential benefits for heart health, skin health, and overall well-being.

How it helps

A meta-analysis of 48 randomized controlled trials with 59 arms found that grape products significantly reduced total cholesterol, low-density lipoprotein, and triglyceride levels but had no significant effect on high-density lipoprotein [\[R\]](#).

106



Cocoa

IMPACT

1 / 5

EVIDENCE

3 / 5

How to implement

Incorporate 30-60 grams of high-quality dark chocolate (with at least 70% cocoa content) into your daily diet. Enjoy it as a snack or dessert to reap the potential heart health benefits.

Description

[Cocoa](#) comes from the beans of the *Theobroma cacao* tree. It is found any many foods and drinks, and people have also used it as a medicine for thousands of years. The numerous active components of cocoa can help with weight control, fatigue, mood, and digestion, among others.

[Cocoa](#) comes from the beans of the *Theobroma cacao* tree. It’s often used for making chocolate, hot chocolate, and pastries. People have also used it as a medicine for over a thousand years [\[R\]](#), [\[R\]](#).

Cocoa contains many active components that likely help [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Control weight
- Lower fatigue
- Boost mood
- Improve digestion
- Balance blood sugar
- Support heart health

Note that pure cocoa is likely a healthier choice than chocolate. If you eat chocolate, choose dark chocolate with more cocoa and less sugar and fat.

How it helps

Two meta-analyses (the largest one of 42 RCTs and 1297 healthy and chronically ill participants participants) found that cocoa products, chocolate, or cocoa flavanol supplements (166 to 2110 mg/day for 2 to 52 weeks) may lower LDL (by 3 mg/dL), if taken for less than 3 weeks and with at least 6 g of fat in the intervention [\[R\]](#), [\[R\]](#).

However, a more recent meta-analysis of 19 RCTs and 1131 healthy and chronically ill participants found cocoa (166 to 2110 mg/day for 2 to 52 wk) ineffective at changing LDL levels [\[R\]](#).

Two small meta-analyses (the most recent one with 10 RCTs with 320 participants) analyzed short-term interventions (for up to 6 weeks) with dark chocolate/cocoa products (up to 500 mg flavonols/day) and found reduction in LDL (by -5.90 or 5.87 mg/dL) especially in people with high cardiovascular disease risk [\[R\]](#), [\[R\]](#).

107



African Mango Seed Extract

IMPACT1 / 5

EVIDENCE3 / 5

How to implement

Take 150 mg of African mango seed extract twice daily, 30 minutes before meals with a glass of warm water. Continue this regimen for 10 weeks for optimal results.

TYPICAL STARTING DOSE

300 mg

Description

African mango (*Irvingia gabonensis*) is a tropical fruit native to West Africa. It is renowned for its potential health benefits, primarily attributed to its high fiber content and the presence of an extract known as Irvingia, which is believed to support weight management and improve metabolic health. African mango supplements are commonly used to aid in weight loss efforts and may help reduce cholesterol levels and improve blood sugar control.

[African mango](#) (*Irvingia gabonensis*), also known as wild mango, bush mango, dika, and ogbono, is a tree found in the rainforests of West Africa. African mango owes its name to its similarity to mangoes [\[R\]](#).

All parts of the African mango tree are used for a variety of purposes [\[R\]](#):

- The pulp is consumed as food or used to make jams, juice, and wine
- The seeds are eaten raw or used to prepare foods and supplements
- The roots, bark, leaves, and seeds are used to make traditional medicines

How it helps

Studies suggest that African mango (*Irvingia gabonensis*) supplementation consistently reduces LDL cholesterol levels:

- In a meta-analysis, *Irvingia gabonensis* seed extract supplementation showed beneficial effects on total cholesterol, LDL-cholesterol, and triglycerides [\[R\]](#).
- A study using a novel seed extract of *Irvingia gabonensis* (IGOB131) demonstrated significant improvements in LDL cholesterol levels among overweight humans. The study showed a reduction in LDL cholesterol as part of an overall improvement in body weight and metabolic parameters [\[R\]](#).
- Another study involving a combination of *Irvingia gabonensis* and another herb also showed reductions in LDL cholesterol, indicating a potentially synergistic effect when used with other supplements [\[R\]](#).

How to implement

TYPICAL STARTING DOSE

2 tbsp

Description

[Flaxseed](#) is a common ingredient in bakery products. Some people also use it as a health food to support digestion [R].

- Vitamins and minerals
- Protein
- Fiber
- Omega-3 fatty acids ([ALA](#))

How it helps

- Taken as whole flaxseed
- For at least 12 weeks
- In females and dyslipidemic participants

Another meta-analysis of 14 RCTs with 1107 healthy and dyslipidemic participants found that flaxseed, as roasted flaxseed, ground flaxseed, or raw flaxseed (15-40 g/day for 4-12 weeks) reduced LDL (by 0.69 mg/dL) in dyslipidemic and overweight participants. Conversely, flaxseed increased LDL (by 2.41 mg/dL) levels in healthy participants [R].

109



Honey

IMPACT1 / 5

EVIDENCE3 / 5

How to implement

Consume 1-2 tablespoons of raw honey daily, either directly or by mixing it into warm water, tea, or yogurt. Continue this practice regularly to observe benefits.

Description

Honey is a natural sweetener known for its antimicrobial properties and potential benefits for wound healing. It contains antioxidants and may have soothing effects on sore throats and coughs.

[Honey](#) is a thick, sweet substance. It’s made by honeybees from the nectar of flowering plants. There are many different types of honey. Besides sugar, honey also contains amino acids (protein building blocks), vitamins, and minerals [\[R\]](#).

People use honey for its anti-inflammatory and antioxidant properties. It can potentially help with [\[R\]](#):

- Heart problems
- Gut problems
- Cough
- Burns

How it helps

A meta-analysis of 18 trials found low-certainty evidence that honey, especially Robinia, clover, and unprocessed raw honey, reduces total cholesterol (by 0.18 mmol/L), LDL-cholesterol (by 0.16 mmol/L), triglycerides (by 0.13 mmol/L), and ALT (by 9.75 U/L) and high-certainty evidence that it increases HDL-cholesterol (by 0.07 mmol/L) [\[R\]](#).

However, a meta-analysis of 23 studies concluded that honey has no significant effects on cholesterol and triglyceride levels [\[R\]](#).

110



Calcium Supplements

IMPACT1 / 5

EVIDENCE3 / 5

How to implement

Take 500-600 mg of calcium supplement twice daily with food. For best absorption, do not exceed 600 mg at one time and ensure a total daily intake of 1000-1200 mg from all sources, including diet. Continue indefinitely for ongoing support of bone health.

TYPICAL STARTING DOSE

1000 mg

Description

Calcium supplements are commonly used to support bone health and prevent conditions like osteoporosis. Adequate calcium intake is essential for maintaining strong bones and teeth.

[Calcium](#) is the most abundant mineral in the human body. It is vital for the bones, heart, muscles, and nervous system [\[R\]](#).

Your body gets calcium from food and needs vitamin D to help absorb it. Calcium can be found in a variety of foods, including [\[R\]](#):

- Dairy products
- Green, leafy vegetables
- Fish with edible soft bones (e.g., sardines)
- Calcium-fortified foods and beverages

How it helps

Calcium supplementation is associated with a significant reduction in LDL cholesterol levels, particularly with intakes of at least 1000 mg/day and over longer periods (≥12 weeks) [\[R\]](#), [\[R\]](#).

The reduction in LDL cholesterol was quantified as approximately 4.64 mg/dL [\[R\]](#).

Supplementation with calcium plus vitamin D also showed a significant decrease in LDL cholesterol levels, with a mean decrease of 4.46 mg/dL. However, not all studies found this benefit [\[R\]](#), [\[R\]](#).

Please note: calcium competes with iron for absorption in the intestines, potentially exacerbating anemia or making it harder to manage. If you have anemia, consult your healthcare provider before using calcium supplements.

111



Perilla Oil

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Take 600-900 mg of perilla oil daily, ideally with meals to enhance absorption. This should be divided into two or three doses throughout the day. Continue this regimen for at least 8 to 12 weeks to evaluate its effectiveness.

TYPICAL STARTING DOSE

600 mg

Description

Perilla oil is an edible oil extracted from the seeds of the *Perilla frutescens* plant, which is native to Asia. It is rich in omega-3 fatty acids, particularly alpha-linolenic acid (ALA), and is known for its potential health benefits, including supporting heart health, reducing inflammation, and providing essential nutrients like vitamin E and omega-3s.

How it helps

A double-blind, randomized control trial with 182 patients with mild to moderate dementia found that perilla seed oil (for 6 months) added to standard treatment did not change cognitive function. However, it lowered total cholesterol and LDL cholesterol [\[R\]](#).

Similarly, a randomized controlled trial in 156 type 2 diabetic patients with dyslipidemia found that perilla oil (3 g/day for 6 months) did not change serum glucose, glycated hemoglobin, C peptide, insulin or homeostasis model assessment-insulin resistance. However, it did lower serum LDL-C and apolipoprotein B [(2.60±0.57) mmol/L,(0.96±0.23) g/L, respectively] compared with fish oil [\[R\]](#).

A trial with patients with hyperlipidemia found that perilla oil (for 8 weeks) lowered triglyceride (TG), total cholesterol (TC), and LDL-C after 56 days of treatment. It also increased HDL-C after 28 and 56 days of treatment. Plasma lipid levels were significantly lower after 56 days of treatment [\[R\]](#).

How to implement

Description

How it helps

A 2008 randomized crossover study of n=28 individuals showed that 4 weeks of pistachio supplementation significantly decreased LDL-C by 11.6% [R]

113



Garlic Supplement

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Take a garlic supplement, such as a garlic extract or aged garlic supplement, in a dosage of 600-1,200 mg per day, divided into separate doses. This should be taken with meals to minimize digestive issues. Continue daily for at least 8-12 weeks to evaluate its effects on health markers like blood pressure or cholesterol.

TYPICAL STARTING DOSE
200 mg

Description

Garlic is a pungent herb known for its potential health benefits, including cardiovascular support and immune system enhancement. It contains bioactive compounds that may help reduce the risk of chronic diseases and support overall well-being.

[Garlic](#) is a delicious aromatic herb that adds flavor to your food. But did you know that garlic has been a part of traditional medicine for thousands of years? **From ancient Egypt and Rome to China, people have praised garlic for its many health benefits.** Today, we can trace many of those benefits to sulfur-rich compounds found in garlic. People take garlic to help control their blood pressure and cholesterol [\[R\]](#).

Please note: *Garlic can interact with blood thinners (like aspirin, Plavix, Coumadin). If you are on blood thinners, consult your doctor before supplementing with garlic [\[R\]](#).*

How it helps

Garlic supplement (taken for at least 8 weeks) may help lower LDL cholesterol. Studied forms include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- **Garlic powder:** 600–5,600 mg/day
- **Garlic oil:** 9–18 mg/day
- **Aged garlic extract:** 1,000–7,200 mg/day

However, many studies didn’t find this benefit [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

The effects may be greater for garlic powder [\[R\]](#).

Garlic seems to help by reducing the:

- Production and storage of cholesterol [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Amount of cholesterol absorbed from the gut [\[R\]](#)

Please note: *Garlic can interact with blood thinners (such as aspirin, Plavix, and Coumadin). In addition, garlic can irritate the stomach in some people. Talk to your doctor before taking garlic [\[R\]](#), [\[R\]](#).*

114

Whole-Body Cryotherapy

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Participate in whole-body cryotherapy sessions by entering a cryotherapy chamber for 2-3 minutes, where temperatures drop to between -100°C to -140°C (-148°F to -220°F). These sessions should be performed 2-3 times a week for optimal benefits.

TYPICAL STARTING DOSE
2 minutes

Description

Whole-body cryotherapy involves brief exposure to extreme cold temperatures in a controlled chamber. It is used to reduce inflammation, alleviate muscle soreness, and promote recovery in athletes and individuals seeking pain relief.

How it helps

A meta-analysis of 7 studies found significantly lower levels of triglycerides after whole-body cryotherapy. Sensitivity analysis also demonstrated significantly lower levels of total cholesterol and LDL cholesterol after removing single studies. Meta-regression analysis showed that a lower baseline BMI was significantly associated with greater changes in the levels of total cholesterol and LDL [\[R\]](#).

Whole-body cryotherapy may lower LDL cholesterol by improving your metabolic rate, which helps your body process fats faster.

Please note: *Rapid cold exposure can cause life-threatening changes to your breathing and heart rate. This is called the cold-shock response. Be cautious of any form of sudden temperature change to your environment, especially if you have heart disease or other health conditions [\[R\]](#).*

115

Extra Virgin Olive Oil (EVOO) With Thyme

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Incorporate 1-2 tablespoons of extra virgin olive oil (EVOO) mixed with 1 teaspoon of dried thyme into your daily diet. You can use this mixture as a salad dressing or drizzle it over cooked vegetables. It is recommended to consume this blend daily for ongoing health benefits.

Description

Olive oil infused with thyme is a flavorful and aromatic culinary ingredient. It can add both taste and potential health benefits, including antioxidant and anti-inflammatory properties, to dishes.

How it helps

Taking virgin olive oil enriched with thyme polyphenols (25 mL/day) for 3 weeks decreased the LDL:HDL ratio and oxidized LDL levels in a placebo-controlled trial of 33 patients with hypercholesterolemia [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

EVOO, rich in monounsaturated fats, helps reduce LDL cholesterol levels, lowering heart disease risk. Thyme, with its anti-inflammatory nature, further aids by reducing the buildup of cholesterol in your blood vessels.

How to implement

Description

How it helps

How to implement

Description

Prunes are a good source of omega-6 fatty acids, vitamin A and B6, potassium, iron, magnesium, and copper. A ½ cup serving provides 635 mcg or 14%DV.

How it helps

Sixty mildly hypercholesterolemic individuals were divided into three groups: placebo, PEC I (50 mL of PEC/day), and PEC II (100 mL of PEC/day) for 4 weeks, with 2 weeks of follow-up without PEC consumption. Both PEC groups showed significant reductions in total cholesterol and LDL cholesterol, with no changes in other lipid parameters [R].

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Intermittent Fasting

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Limit your daily eating to a specific window of time, typically within an 8-hour period such as from 12 pm to 8 pm, and fast for the remaining 16 hours of the day. Repeat this daily or for at least 3-4 days per week.

Description

Intermittent fasting is an eating pattern that involves cycling between periods of fasting and eating. It may help with weight management, improve metabolic health, and offer potential benefits for certain health conditions when done under proper guidance.

[Intermittent fasting](#) (IF) is a pattern of eating that alternates between periods of eating and fasting. The most popular IF method is called the 16/8 method, where you fast for 16 hours and eat during an 8-hour window.

People mainly practice IF to lose weight. Besides benefits related to weight reduction, IF may help lower the risk of [\[R\]](#):

- Alzheimer's disease
- Joint pain
- Asthma
- Multiple sclerosis
- Stroke

Some types of intermittent fasting, such as Ramadan fasting, are also practiced for religious reasons.

How it helps

In a meta-analysis of 33 studies, intermittent fasting and extended nightly fasting interventions led to significant decreases in total cholesterol, LDL cholesterol, and triglyceride levels but did not significantly affect HDL cholesterol [\[R\]](#).

In a meta-analysis of 6 studies, no statistical differences were found in blood pressure, cholesterol levels, fasting blood glucose, or insulin. Nine trials involving 540 patients found some reduction in LDL cholesterol at 2-4 months but not long-term. Other health markers showed no significant effects in a qualitative analysis of ten articles [\[R, R, R\]](#).

However, an analysis of 33 studies on intermittent fasting showed no significant effects on triglycerides, total cholesterol, or LDL cholesterol levels but a decrease in HD cholesterol and VLDL cholesterol, particularly during Ramadan fasting [\[R, R\]](#).

Intermittent fasting may help by reducing body weight and overall calorie intake.

How to implement

TYPICAL STARTING DOSE

100 mg

Description

Tocotrienols are a form of vitamin E that helps to protect your cells. They fight harmful substances in your body called free radicals, which can damage our cells and lead to illness. By helping your body in this way, tocotrienols contribute to overall health, boosting immunity, and slowing down aging processes.

How it helps

In a trial of 90 hypercholesterolemic patients, the tocotrienol-rich fraction of rice bran (100 mg/day) decreased serum LDL cholesterol by up to 25%. Palmvitee (40 mg alpha-tocopherol, 48 mg alpha-tocotrienol, 112 mg gamma-tocotrienol, and 60 mg delta-tocotrienol/day for 4 weeks) and gamma-tocotrienol reduced cholesterol (by 10%) in a trial of with hypercholesterolemic subjects after acclimation to the Step 1 diet for 4 and 8 weeks. However, a meta-analysis of 15 randomized controlled trials found no effects of tocotrienol on LDL cholesterol [R, R, R].

Tocotrienols may help by blocking an enzyme that controls the production of cholesterol in your body.

120



Yoga

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Practice yoga for at least 20 to 30 minutes a day, most days of the week. Choose a style that matches your fitness level and goals, and consider attending a class or using online resources to guide your practice.

TYPICAL STARTING DOSE

30 minutes

Description

Yoga is a mind-body practice that combines physical postures, breathing exercises, and meditation. It enhances flexibility, strength, and mental well-being and is used for stress reduction, relaxation, and overall health improvement.

[Yoga](#) combines breathing, stretching, and relaxation techniques. Practicing yoga may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reduce [stress](#)
- Improve fitness
- Lower blood pressure and heart rate
- Manage pain

How it helps

In a meta-analysis of 42 studies, yoga was associated with a significant decrease in LDL-C [\[R\]](#).

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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 acid supplements can help lower your triglycerides. They are available by prescription or over-the-counter. If you choose to take over-the-counter supplements, get your doctor's OK. Omega-3 fatty acid supplements could affect other medications you're taking [\[R\]](#).

According to a meta-analysis of 6 trials and 1,664 participants, combining omega-3 fatty acids with statins reduces the total to HDL cholesterol ratio but has no effects on LDL cholesterol levels [\[R\]](#).

In line with this, other meta-analyses found no effects of omega-3 fatty acids on LDL levels [\[R\]](#), [\[R\]](#).

A small meta-analysis (5 trials and 254 participants) only including studies on patients with metabolic disorders found that the combination of omega-3s and vitamin E could lower LDL cholesterol (by 8.07 mg/dL), but not TC or HDL cholesterol [\[R\]](#).

Importantly, prescription omega-3 fatty acid products containing docosahexaenoic acid (DHA) show minor and inconsistent effects on HDL, but they all seem to reduce TC (-3 to -9%), and even *increase* LDL cholesterol (7.23 mg/dL) [\[R\]](#), [\[R\]](#).



PERSONALIZED TO YOUR GENES

Supplementation with omega-3 fatty acids may lower LDL-cholesterol more in people with your [MGLL](#) gene variant [R].
Supplementation with omega-3 fatty acids may lower LDL-cholesterol more in people with your [MGLL](#) gene variant [R].
Supplementation with omega-3 fatty acids may lower LDL-cholesterol more in people with your [MGLL](#) gene variant [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
ABTB1	rs782440	TC	
ABTB1	rs555183	AA	
ABTB1	rs1466571	AA	

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Low-Carbohydrate Diet

IMPACT



EVIDENCE



How to implement

Limit your daily intake of carbohydrates to less than 26% of your total daily calories. For a standard 2000-calorie diet, this means consuming no more than 130 grams of carbohydrates per day. Focus on including non-starchy vegetables, lean proteins, and healthy fats in your meals while minimizing the intake of sugars, bread, pasta, and other high-carb foods.

Description

Low-carbohydrate diets can promote weight loss, improve blood sugar control, and support heart health. They may also be beneficial for individuals with certain medical conditions, such as epilepsy or metabolic syndrome.

How it helps

Eating a low-carbohydrate, low-calorie diet may lower LDL-cholesterol more in people with certain gene variants [R].



PERSONALIZED TO YOUR GENES

Eating a low-carbohydrate, low-calorie diet may lower LDL-cholesterol more in people with your [ADIPOQ](#) gene variant [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
ST6GAL1	rs1501299	GG	

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Boron

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a boron supplement of 3 to 6 mg daily, with food to enhance absorption. This dosage range is commonly recommended for general health benefits, based on nutritional studies. It's advisable to continue this regimen daily for an extended period, as long-term benefits depend on consistent supplementation.

TYPICAL STARTING DOSE

3 mg

Description

Boron is a trace mineral that plays a role in bone health, cognitive function, and hormone regulation.

Boron is a mineral in many foods, including:

- Fruits and fruit juices
- Avocados
- Potatoes
- Legumes
- Drinks (coffee, milk, cider, wine, and beer)

Scientists aren’t sure if boron has any roles in the body, so they don’t consider it an essential nutrient.

Some people take boron supplements to balance hormone levels, increase athletic performance, and more. However, the evidence to support these uses is weak.

How it helps

In one study, two different doses of calcium fructoborate, 56 and 112 mg/day, reduced LDL levels by 9.4% and 9.8%, respectively [\[R\]](#).

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Genistein

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a genistein supplement daily, with a usual dosage range between 30 mg to 100 mg. It is best taken with food to enhance absorption. Continue this regimen daily for at least six months to evaluate its benefits fully.

TYPICAL STARTING DOSE

30 mg

Description

Genistein is an isoflavone found in soy products that may offer potential health benefits, including antioxidant and anti-inflammatory properties. It has been studied for its potential role in hormone regulation and the reduction of certain cancer risks.

How it helps

Genistein intake may significantly reduce total cholesterol, LDL cholesterol, and systolic blood pressure, with greater effects in postmenopausal women with metabolic syndrome and longer durations of intake [R].

In one study, LDL cholesterol reduction with genistein was not statistically significant, but other outcomes like total cholesterol, HDL cholesterol, fasting glucose, and insulin showed significant differences [R].

In another study, genistein effectively lowered homocysteine levels and increased HDL cholesterol. It reduced LDL cholesterol, total cholesterol, and triglycerides in postmenopausal women with metabolic syndrome but not in others [R].

Genistein may help by inhibiting the absorption and production of cholesterol in the body.

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Ox Bile (Cholic Acid)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take one 500 mg capsule of ox bile with each meal, not exceeding three capsules daily. This supplement should be used under the guidance of a healthcare professional, especially if you are dealing with a specific medical condition affecting your bile production or digestion.

TYPICAL STARTING DOSE

500 mg

Description

Ox bile is a substance derived from the gallbladders of cattle and is used as a dietary supplement to aid in the digestion of fats. Tradition Chinese medicine has been using ox bile for over 2,000 years. It may be beneficial for individuals with conditions that affect fat absorption.

How it helps

In 2 outpatient studies involving 20 adults with specific genetic profiles (apo-A IV 1/1 or apo-E 3/3), chenodeoxycholic acid had no impact on plasma lipid levels, while deoxycholic acid slightly lowered LDL-cholesterol [\[R\]](#).

Ox bile supplements aid in the breakdown and absorption of fats in the intestine. As a result, they may promote better regulation and balance of fats and cholesterol levels in the bloodstream.

126



Raspberries

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate a half cup to one cup of fresh or frozen raspberries into your daily diet. You can add them to your breakfast cereal, blend them into a smoothie, or snack on them throughout the day.

Description

Raspberries are a type of berry native to Europe and Asia, known for their high vitamin C and dietary fiber content. They have astringent properties, can support immune health, and aid in digestion.

How it helps

Raspberries are loaded with dietary fiber and antioxidants that can help reduce LDL cholesterol levels. They prevent LDL cholesterol from oxidizing and forming plaques in your arteries, thereby reducing heart disease risk.

In individuals with prediabetes and insulin resistance, supplementation with red raspberries (RRB) improved hepatic insulin resistance and reduced total and LDL cholesterol. Adding fructo-oligosaccharide (FOS) to RRB further improved β -cell function. RRB alone increased Eubacterium eligens and decreased Ruminococcus gnavus, while RRB + FOS increased Bifidobacterium spp. and decreased Blautia wexlerae in the gut microbiota. These changes were associated with metabolic improvements, suggesting potential benefits of (poly)phenol/FOS-microbial interactions on host metabolism [R].

24 participants received 280 g/d of raspberries for 8 weeks. Following raspberry consumption, a significant decrease in triglycerides, cholesterol and CRP levels were found in responders, as compared to non-responders [R].

In a 12-week study on patients with metabolic syndrome, those taking 750 mg/day of black raspberry extract exhibited significant improvements compared to the placebo group. These improvements included greater reductions in total cholesterol levels and total cholesterol/HDL ratio, increased brachial artery flow-mediated dilatation (baFMD), and greater reductions in inflammatory markers such as IL-6 and TNF [R].

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Kelp

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a kelp supplement daily, ensuring the dosage aligns with the product's label, typically ranging from 600 to 1000 micrograms of iodine. It's important to not exceed the recommended dosage to avoid potential thyroid issues. Use for ongoing nutritional support, especially if your diet lacks iodine.

TYPICAL STARTING DOSE

500 mg

Description

Kelp is a type of seaweed rich in iodine and other minerals. Incorporating kelp into the diet may help support thyroid function and provide essential nutrients.

Kelp is a source of iodine, vitamins K, A, C, E, and B-vitamins, along with some thiamin, riboflavin, and niacin. The highest type is kombu kelp, which contains 2,984 mcg of iodine per seaweed sheet (1 gram).

How it helps

In a placebo-controlled trial of 50 overweight volunteers, supplementation with iodine-reduced kelp powder (30 tablets/day) for 8 weeks lowered LDL cholesterol [\[R\]](#).

128



Whey Protein

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Mix one scoop (approximately 25-30 grams) of whey protein powder with 8-12 ounces of water, milk, or your preferred beverage. Consume this drink 1-2 times per day, ideally post-workout or as a meal replacement.

TYPICAL STARTING DOSE

25 g

Description

Whey protein is a complete protein derived from milk during cheese production. It is rich in essential amino acids and is used to support muscle recovery, promote muscle growth, and provide a convenient protein source for athletes and fitness enthusiasts.

Whey is the liquid that separates from milk when cheese is made. [Whey protein](#) is full of amino acids (protein building blocks) that the body needs [\[R\]](#), [\[R\]](#).

Whey protein usually comes in the form of a powder that can be added to soft foods and drinks. People often use it to help with [\[R\]](#), [\[R\]](#):

- Athletic performance
- Nutritional deficiencies

How it helps

In a meta-analysis of 22 studies involving people with metabolic disorders, whey protein caused significant reductions in LDL cholesterol [\[R\]](#).

However, another meta-analysis of 13 studies didn’t find this benefit [\[R\]](#).

129



Sage Extract

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take sage extract in supplement form, ideally in doses ranging from 300 to 600 mg daily, divided into 2 or 3 doses throughout the day. It is recommended to follow this regimen for at least 1 to 2 months to evaluate its effects on cognitive function and mood improvements.

TYPICAL STARTING DOSE

300 mg

Description

Common sage (*Salvia officinalis*) is an herb from the mint family. It is native to the Mediterranean region. The main compounds in sage extract include essential oils like thujone and cineole, which contribute to its flavor and potential benefit for sore throats and digestive issues [R].

People commonly use sage as a spice and a traditional remedy for [R, R]:

- Sore throat
- Mood
- Blood sugar and cholesterol control
- Heavy sweating

How it helps

In a placebo-controlled trial of 67 hyperlipidemic participants, supplementation with sage extract lowered total cholesterol, LDL cholesterol, VLDL cholesterol, and triglycerides while increasing HDL cholesterol [R].

Similarly, drinking sage tea lowered total cholesterol and LDL cholesterol while increasing HDL cholesterol in an uncontrolled trial of 6 women [R].

Please note: *rosmarinic acid from sage may inhibit the production of the thyroid hormone T4 (thyroxine). Individuals with thyroid disorders, particularly hypothyroidism or low T4 levels, should exercise caution when using sage extract and always consult with a healthcare provider before taking this supplement* [R].

130



Fucoidan

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take 300 mg of fucoidan supplement once daily, preferably with a meal to aid absorption. Continue this regimen for a minimum of four weeks to evaluate its effects on your health.

TYPICAL STARTING DOSE

300 mg

Description

Fucoidan is a compound found in certain brown seaweeds and marine plants, and it is consumed for its immune system support and anti-inflammatory effects.

How it helps

In a placebo-controlled trial of 25 overweight and obese participants, supplementation with fucoidan (500 mg/day) for 3 months decreased systolic blood pressure and LDL cholesterol [\[R\]](#).

131



Chromium

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 200 mcg chromium supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

200 mcg

Description

Chromium is a trace mineral that plays a role in insulin sensitivity and glucose metabolism. Adequate chromium intake through diet or supplements may help support blood sugar control and overall metabolic health.

[Chromium](#) (Cr) is a trace element. It helps regulate carb, fat, and protein breakdown [\[R\]](#).

Women need 20-25 micrograms (mcg) of chromium per day, while men need 30-35 mcg [\[R\]](#).

It’s easy to get chromium from your diet. Good sources include [\[R\]](#):

- Grape and orange juice
- Ham
- Beef
- Lettuce

You can also get chromium from supplements [\[R\]](#).

How it helps

Chromium can help in managing LDL cholesterol by improving the body's sensitivity to insulin, which facilitates the breakdown and removal of LDL cholesterol. This mechanism leads to balanced cholesterol levels and promotes heart health.

In a double-blind crossover study, 28 volunteers received either chromium picolinate or a placebo for 42 days, with a 14-day break between treatments. Chromium picolinate significantly reduced total cholesterol, LDL cholesterol, and apolipoprotein B levels, while increasing apolipoprotein A-I levels and slightly raising HDL cholesterol [\[R\]](#).

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White Kwao Krua (Pueraria Mirifica)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a Pueraria mirifica supplement, commonly known as white kwao krua, once daily, with dosages typically ranging from 10 to 100 mg. It is best to start with the lowest dose to assess your body's response before possibly increasing the amount under medical supervision. The duration of use should be as advised by a healthcare professional, considering the specific health goals or conditions being targeted.

TYPICAL STARTING DOSE

10 mg

Description

White Kwao Krua, also called Pueraria Mirifica, is a plant found in Thailand known for its health benefits. It’s usually used as a supplement that can help balance hormones, improve skin health, and may have benefits for bone health. By taking this supplement, it can positively enhance your overall health and well-being.

How it helps

A study demonstrated that *Pueraria mirifica* significantly decreased LDL cholesterol by 17% and improved overall lipid profiles in postmenopausal women, likely due to the activation of estrogen receptor subtypes by its phytoestrogens [\[R\]](#).

133



Salvia Miltiorrhiza

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 200-600mg of Salvia miltiorrhiza extract in capsule or tablet form daily, divided into two or three doses. This should be taken with water, preferably 30 minutes before meals. Continue for a period of 8 to 24 weeks for noticeable effects.

Description

Salvia miltiorrhiza, also known as Danshen, is a traditional Chinese medicinal herb. It is primarily used for its potential cardiovascular benefits, including improving blood circulation and reducing the risk of heart-related conditions. It contains various compounds, including tanshinones and salvianolic acids.

How it helps

In a non-placebo-controlled trial of 81 patients with hyperlipidemia, supplementation with *Salvia miltiorrhiza* for 3 months decreased total cholesterol, LDL cholesterol, and triglycerides as effectively as simvastatin [\[R\]](#).

Salvia miltiorrhiza may help by reducing the production of LDL cholesterol in the body and promoting its removal.

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Bananas

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate 1-2 bananas into your daily diet. Bananas can be eaten as a standalone snack, added to cereal, oatmeal, or smoothies, or used as an ingredient in baking. Aim to include them regularly for ongoing dietary benefits.

Description

Bananas are a nutrient-rich fruit packed with potassium, fiber, and essential vitamins. They are a convenient and healthy snack option that can help support heart health, digestive regularity, and overall well-being.

Bananas are a good source of vitamins B6 and C, as well as numerous minerals, including potassium, copper, and magnesium. A single banana provides 0.4 mg of vitamin B6 or 25%DV.

How it helps

Bananas are rich in dietary fiber, which can lower your LDL cholesterol levels by reducing cholesterol absorption in your gut.

In a study involving hypercholesterolemic and type 2 diabetic subjects, daily consumption of 250 or 500 grams of banana for 12 weeks led to significant reductions in fasting blood glucose and LDL-cholesterol/HDL-cholesterol ratio in hypercholesterolemic individuals. For diabetic patients, blood glucose and lipid changes were not statistically significant, but there was a significant increase in plasma adiponectin levels [\[R\]](#).

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Activated Charcoal

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500-1000 mg of activated charcoal with a full glass of water at least 1 hour before a meal or 2 hours after a meal. Do not consume it daily for long periods; use it for short-term detoxification or occasional upset stomach only.

TYPICAL STARTING DOSE

500 mg

Description

Activated charcoal is a porous substance that is highly effective at absorbing and trapping toxins and chemicals in the digestive tract. It is sometimes used in emergency medical settings for poisoning treatment and in certain beauty and wellness products.

How it helps

In a non-placebo-controlled trial of 17 patients with hypercholesterolemia, ingesting activated charcoal (4-32 g/day) for 3 weeks decreased LDL-cholesterol (by 23-41%) while increasing the HDL:LDL ratio (by 77-121%). However, activated charcoal had no added benefits when combined with cholestyramine [\[R\]](#).

Activated charcoal can bind to cholesterol in the gut, potentially reducing its absorption and aiding in lowering high cholesterol levels.

136



Curcumin Longvida

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 400-1000 mg of Longvida curcumin once daily, preferably with a meal to enhance absorption. It's recommended to continue this supplement intake daily for at least 8-12 weeks to evaluate its benefits.

TYPICAL STARTING DOSE

1 g

Description

Curcumin Longvida is a specialized formulation of curcumin designed for improved bioavailability and brain health support. It has been studied for its potential cognitive benefits and ability to cross the blood-brain barrier.

How it helps

In a placebo-controlled trial of 60 older adults, supplementation with curcumin Longvida (400 mg/day) for 4 weeks lowered total and LDL cholesterol [\[R\]](#).

Please note: curcumin may interfere with iron absorption due to its iron-chelating properties, potentially exacerbating anemia or making it harder to manage. If you have anemia, consult your healthcare provider before using curcumin or turmeric supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

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Black Chokeberry

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate black chokeberry (*Aronia melanocarpa*) in your diet by consuming 100-200 grams of fresh berries daily. If using a concentrated form like juice or extracts, follow the manufacturer's instructions, usually around 100 ml of juice or 500 mg of extract per day, for at least 8-10 weeks to observe potential health benefits.

Description

Black chokeberry is a fruit known for its high content of antioxidants and potential health benefits. It may support cardiovascular health and provide immune system support when incorporated into a balanced diet.

How it helps

In a non-placebo-controlled trial of 41 patients with type 1 diabetes, consuming black chokeberry juice (200 mL/day) for 3 months lowered fasting glucose (by 4.18 mmol/L), HbA1c, and TC (by 1.4 mmol/L) [\[R\]](#).

In a placebo-controlled trial of 143 patients with metabolic syndrome, supplementation with black chokeberry extract for 4 weeks decreased LDL-C [\[R\]](#).

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Brazil Nuts

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Consume 1-2 Brazil nuts daily to meet your selenium needs and potentially improve heart health and thyroid function. Do not exceed this amount to avoid selenium toxicity.

Description

Brazil nuts are a nutritious snack rich in selenium, a mineral essential for various bodily functions, including thyroid health and immune support.

Brazil nuts have an enormous amount of selenium along with other minerals like magnesium, phosphorus, and copper, and vitamins E and B1. A 1-ounce (6–8 nuts) serving provides 544 mcg of selenium or 989%DV.

How it helps

Consuming Brazil nuts may lower LDA study found that hydroxytyrosol supplementation reduced LDL-cholesterol levels compared to a placebo after 12 weeks of intervention. This suggests that hydroxytyrosol can be a beneficial nutraceutical with anti-atherogenic effects, particularly in managing elevated LDL cholesterol levels. Brazil nuts may be more effective in people with certain gene variants [\[R, R\]](#).

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Tart Cherries

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How to implement

Consume about 200 grams (7 ounces) of tart cherries or drink 240 ml (8 ounces) of tart cherry juice daily. This can be done at any time of the day but consuming it in the evening might improve sleep quality. It is recommended to continue daily consumption for at least 4 weeks to observe benefits such as reduced muscle pain, improved sleep, and potential reduction in inflammation.

Description

Tart cherries, often available in the form of juice or supplements, has vitamin C, as well as anthocyanins and melatonin, known for their potential to reduce inflammation and improve sleep quality. They are rich in antioxidants and may aid in recovery from exercise-induced muscle soreness.

Cherries are stone fruits with numerous species. Tart or “sour” cherries (*Prunus cerasus*) are native to parts of Europe and Asia [\[R\]](#), [\[R\]](#).

They are close to regular, sweet cherries (*Prunus avium*) but more acidic. Hence, people do not eat them fresh but dried or in syrups, salads, pies, or liqueurs.

People consume tart cherries to help with [\[R\]](#):

- Gout
- Exercise recovery
- Blood sugar control
- Blood pressure

How it helps

Consuming tart cherry juice (480 mL/day) for 12 weeks lowered total cholesterol and LDL-cholesterol in a placebo-controlled trial of 37 participants [\[R\]](#).

In a placebo-controlled trial of 12 participants with metabolic syndrome, consuming tart cherry juice for 7 days lowered total cholesterol and total cholesterol:HDL ratio [\[R\]](#).

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Rooibos

IMPACT

1 / 5

EVIDENCE

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How to implement

Take rooibos as a tea by steeping 1.5 to 2 teaspoons (2.5-5 grams) of loose leaf rooibos or one tea bag in about 8 ounces of boiling water for 10 minutes. Drink 1 to 2 cups daily. This can be enjoyed hot or cold, according to personal preference.

TYPICAL STARTING DOSE
3 g

Description

Rooibos, also known as red bush tea, is a plant native to South Africa. Traditionally, its leaves are harvested, fermented, and brewed into a caffeine-free herbal tea. It's rich in antioxidants, such as aspalathin and quercetin, and is valued for its low tannin levels and high content of nutrients like vitamin C and minerals like manganese and potassium.

How it helps

In a 6-week clinical trial with 40 at-risk adults for cardiovascular disease, drinking 6 cups of fermented/traditional rooibos daily resulted in reduced lipid peroxidation markers, increased glutathione levels, improved redox status, and favorable changes in cholesterol levels [R].

141



Chlorophyll

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take chlorophyll supplements once daily, with a dose ranging from 100 to 300 milligrams. Consume it with a glass of water, preferably in the morning to coincide with your digestive cycle. It's advisable to continue this regimen daily for at least 3 to 4 weeks to assess its benefits.

TYPICAL STARTING DOSE
100 mg

Description

Chlorophyll is a pigment found in plants that may have antioxidant and anti-inflammatory properties. Some proponents suggest that consuming chlorophyll supplements or chlorophyll-rich foods may support detoxification and overall health

How it helps

In a placebo-controlled trial of 38 women, supplementation with green plant membranes (5 g/day) as part of a weight-loss intervention for 12 weeks increased weight loss (by 1.5 kg), and GLP-1 levels while reducing total and LDL cholesterol [R].

142



Ashwagandha

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take 250-600 mg of ashwagandha supplement daily. It can be consumed with water or a meal, depending on your preference or as advised by a healthcare provider.

TYPICAL STARTING DOSE
120 mg

Description

[Ashwagandha](#) (*Withania somnifera*) is an herb used in traditional Indian medicine. This herb is known as an *adaptogen* because it helps people adapt to stress.

This herb is known as an *adaptogen* because it helps people adapt to stress [\[R\]](#), [\[R\]](#).

How it helps

Ashwagandha has been shown to have a modest impact on reducing LDL cholesterol, according to limited research. Here are the key findings from relevant human research:

1. An exploratory study on healthy volunteers using Ashwagandha found significant reductions in both total and LDL cholesterol levels, suggesting its potential cardiovascular benefits [\[R\]](#).
2. Another study aimed at evaluating the effects of Ashwagandhadi Churna on various cardiovascular markers in patients with essential hypertension reported significant reductions in LDL cholesterol, indicating its effectiveness in managing cardiovascular risk factors [\[R\]](#).

These studies suggest that ashwagandha could be beneficial in reducing LDL cholesterol levels and improving cardiovascular health, although more extensive research is needed to fully establish these effects.

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Brewer's Yeast

IMPACT

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EVIDENCE

1 / 5

How to implement

Take 1 to 2 tablespoons of brewer's yeast daily, mixing it into water, juice, smoothies, or food. It can be consumed at any time of day, but incorporating it into a regular, daily routine ensures consistent intake. Continuation can be long-term if it agrees with your system and you're seeing desired outcomes.

Description

Brewer's yeast is a nutritional supplement rich in B vitamins, minerals, and protein. It's often used to support energy levels, boost metabolism, and promote overall health, particularly for individuals with dietary restrictions or specific nutritional needs.

Brewer’s yeast is a great source of B-vitamins and minerals like chromium, iron, zinc, and selenium. A 1 tablespoon serving provides 3.3 mcg of chromium or 9%DV.

How it helps

In a study, 21 subjects were randomly assigned into either brewer's yeast or torula yeast group and consumed 10 g yeast powder daily for 12 weeks. Brewer's yeast demonstrated a beneficial effect on decreasing serum triacylglycerol values [\[R\]](#).

In a study with 78 type 2 diabetes patients, Brewer's yeast (23.3ug Cr/day) and CrCl3 (200ug Cr/day) supplements, given sequentially with a placebo in between, led to decreased glucose levels (fasting and post-glucose load), fructosamine, and triglycerides, while increasing HDL-cholesterol, serum, and urinary chromium [\[R\]](#).

Another study aimed to investigate the impact of brewer's yeast on plasma glucose and lipid profiles in 55 patients with type 2 diabetes and hypercholesterolemia. Patients took 12 tablets of 300 mg yeast daily for 8 weeks, resulting in decreased triglycerides and LDL-C levels at Weeks 4 and 8, while HDL-C levels increased significantly at both time points compared to baseline [\[R\]](#).

However, in a 12-week trial, 84 adults with type 2 diabetes received brewer's yeast (1800 mg/day) or a placebo, and brewer's yeast reduced systolic and diastolic blood pressure significantly but had no significant impact on LDL-C, HDL-C, triglycerides, or cholesterol levels [\[R\]](#).

144



Lactobacillus Gasseri

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a Lactobacillus gasseri supplement containing around 10 billion colony-forming units (CFUs) daily, ideally with a meal, for at least 2 weeks to 4 months to observe benefits. Continuous daily intake is recommended for ongoing support.

TYPICAL STARTING DOSE
10 billion CFU

Description

Lactobacillus Gasseri is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

How it helps

In a placebo-controlled trial of 32 hypercholesterolemic patients, ingesting a synbiotic with *L. gasseri* CHO-220 and inulin for 12 weeks reduced LDL cholesterol by 9.27% [R].

L. gasseri may help by reducing the amount of cholesterol absorbed from your diet. It works in your gut to break down cholesterol and prevent it from getting into your bloodstream.

145



American Ginseng

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 200-400 mg of American ginseng extract daily, preferably with a meal to enhance absorption. This regimen can be followed continuously for up to 12 weeks, after which a break or reassessment of the need to continue should be considered.

TYPICAL STARTING DOSE

200 mg

Description

American ginseng is a perennial herb native to North America, particularly regions of the United States and Canada. It is valued for its potential health benefits, including immune system support, stress reduction, and enhanced cognitive function, with the primary active compounds being ginsenosides.

[Ginseng](#) is a plant people use to improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Sexual function
- Immunity
- Fatigue
- Attention

There are many different types of ginseng. The most common ones are [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Korean red ginseng, also called Asian ginseng (*Panax ginseng*)
- [American ginseng](#) (*Panax quinquefolius*)
- Chinese notoginseng, also called Sanchi (*Panax notoginseng*)

How it helps

American Ginseng can help lower LDL cholesterol by interfering with cholesterol absorption in the intestines and accelerating its metabolism in the liver. This leads to an overall decrease of LDL in the bloodstream, which supports heart health.

In a placebo-controlled trial of 24 patients with type 2 diabetes, American ginseng (3 g/day for 8 weeks) increased the HDL:LDL ratio [\[R\]](#).

The coadministration of American ginseng (3 g/day) and konjac fiber taken for 12 weeks reduced LDL-cholesterol (by 8.3%), non-HDL cholesterol (by 7.5%), total cholesterol (by 5.7%), total cholesterol:HDL ratio (by 4.1%), ApoB (by 9%), and ApoB:ApoA1 ratio (by 14.6%) in a placebo-controlled trial of 30 patients with type 2 diabetes [\[R\]](#).

In a non-placebo-controlled trial of 84 patients with coronary heart disease and blood glucose abnormality, American ginseng used as an add-on to conventional medicine was more effective at lowering total cholesterol and LDL-cholesterol than conventional medicine alone [\[R\]](#).

146



White Kidney Bean Extract

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement containing 500 to 1500 mg of white kidney bean extract before meals containing carbohydrates, once to twice daily. It's advisable to start with the lower dose to assess tolerance and gradually increase to the desired dose as directed on the product label or by a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

White kidney bean extract contains compounds that inhibit the digestion of carbohydrates, potentially supporting weight management by reducing the absorption of calories from starchy foods.

[White kidney bean](#) is a variety of the common bean (*Phaseolus vulgaris*), which is native to South America. People use the extract of white kidney bean to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Decrease appetite
- Support weight loss

How it helps

In a non-placebo-controlled trial of 73 adults with elevated LDL cholesterol, consuming 180 g/day of canned beans (daily rotation of black, navy, pinto, dark red kidney, and white kidney beans) lowered total and LDL cholesterol [\[R\]](#).

Bean extract contains soluble fiber that binds to cholesterol and bile acids, facilitating their removal from the body. Additionally, it may also inhibit cholesterol production in the liver.

147

Avoid PFAS Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To avoid PFAS exposure, choose products that are labeled PFAS-free, especially when selecting cookware, cosmetics, and clothing. Reduce the consumption of packaged and fast foods since the packaging often contains PFAS. Use a water filter that is certified to remove PFAS compounds for your drinking and cooking water.

Description

Avoiding per- and polyfluoroalkyl substances (PFAS) exposure means avoiding products and environments contaminated with these chemicals, which can help prevent potential health issues like hormonal disruption and adverse effects on liver and immune function.

How it helps

A study of 1067 participants associated PFAS with increased levels of LDL-C and TC [\[R\]](#).

148



Chinese Rhubarb

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a supplement containing Chinese rhubarb extract, typically available in tablet or capsule form. The common dosage ranges from 500 to 1,000 mg per day, taken with water. It is advised to consult with a healthcare provider for the exact dosage based on individual health needs. Use this supplement daily for a period as recommended by the healthcare provider, usually not exceeding 8 weeks without medical advice.

TYPICAL STARTING DOSE
500 mg

Description

Chinese rhubarb is another traditional Chinese herbal remedy known for its potential to support digestive health and relieve constipation. It contains compounds that may have mild laxative effects.

[Rhubarb](#) (also named *Rhei* or *Dahuang*) is one of the most ancient herbs in traditional Chinese medicine. Rhubarb includes approximately 60 species of plants of the genus *Rheum* L. [\[R\]](#), [\[R\]](#).

The rhubarb rhizome is considered a top medicinal plant in Chinese medicine. It is used for [\[R\]](#), [\[R\]](#):

- Constipation
- Kidney disease
- Herpes
- Gum disease

It may help due to its antibacterial and anti-inflammatory effects [\[R\]](#).

How it helps

In a study of 103 atherosclerosis patients, one group received a placebo, while the other received rhubarb in addition to their 6-month baseline therapy. After completion, 83 patients showed decreased total cholesterol and LDL cholesterol in the rhubarb group, with significantly improved brachial artery endothelial function (FMD) [\[R\]](#).

Chinese rhubarb contains compounds that can help lower LDL cholesterol by inhibiting its absorption in the body.

Please note: *Be careful with rhubarb if you are prone to allergies. High doses of rhubarb may cause diarrhea and abdominal cramps. Avoid long-term use due to dependence risk. Rhubarb is not safe for people with gut conditions, women who are pregnant or breastfeeding, and children under 12 years of age. Make sure to consult your doctor before taking rhubarb* [\[R\]](#), [\[R\]](#).

149



Lactobacillus Fermentum

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a supplement containing Lactobacillus fermentum, aiming for dosages around 10 billion CFU (colony forming units). Consume it daily, preferably with a meal, to ensure proper absorption. Continue this routine for at least 4 weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus fermentum is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

How it helps

A study explored the effects of Reg'Activ Cholesterol (RAC), a supplement with *Lactobacillus fermentum* ME-3, on cardiovascular and diabetes markers in 45 asymptomatic participants over 4 weeks. Results showed significant improvements in LDL cholesterol levels, oxidative stress markers, and inflammation, indicating potential benefits for cardiovascular health and diabetes risk [\[R\]](#).

Another study examined the effects of *Lactobacillus fermentum* on serum lipids in subjects with elevated serum cholesterol, for 10 weeks. The results showed a modest downward trend in LDL cholesterol in both the probiotic and placebo groups (7.0% and 5.2% reduction, respectively), but these changes were not statistically significant [\[R\]](#).

150



Yerba Mate

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take yerba mate as a supplement by consuming 1 to 3 grams of the dried leaves in capsule form daily, or by drinking 1 to 3 cups of yerba mate tea. Do this consistently for at least 4 to 8 weeks to observe potential benefits.

TYPICAL STARTING DOSE

1 g

Description

Yerba mate is a South American herbal tea known for its caffeine content and antioxidant properties. It provides a boost in alertness and mental clarity and is used for its potential to enhance focus and energy.

Yerba mate is a traditional South American beverage made from the dried leaves of the yerba mate plant (*Ilex paraguariensis*). It is commonly consumed in countries like Argentina, Uruguay, Paraguay, and Brazil, and has a long history of cultural significance and social bonding.

Yerba mate is traditionally sipped through a *bombilla*, a special metal straw, from a gourd-shaped container. This results in a flavorful and stimulating drink often shared among friends and family.

How it helps

In a non-placebo-controlled trial of 102 participants, drinking yerba mate (330 mL, 3x/day) for 20-40 days reduced LDL cholesterol by 8.7% in normolipidemic subjects, by 8.1-8.6% in dyslipidemic subjects, and by 10-13% in those on statins [R].

Yerba mate is rich in antioxidants like polyphenols that may help lower LDL cholesterol levels.

151



Avoid Cadmium Exposure

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

To avoid cadmium exposure, refrain from smoking or exposure to secondhand smoke, reduce consumption of foods high in cadmium like shellfish, liver, kidney meats, and certain leafy vegetables, and use ceramic or glass containers instead of plastic when microwaving food. Limit intake of cadmium-contaminated workplace air by using protective gear if you work in battery manufacturing, welding, or metal refining industries.

Description

Avoiding cadmium exposure is essential to prevent potential health risks associated with this heavy metal, such as kidney damage and increased cancer risk. Reducing exposure to cadmium-containing products and contaminated foods is crucial.

Heavy metals are elements naturally found in the environment. They are also used for agricultural, industrial, and medicinal purposes. Some can even be found in small amounts in your body [\[R\]](#), [\[R\]](#).

Long-term exposure to high amounts of heavy metals can be harmful to your health [\[R\]](#), [\[R\]](#).

Heavy metals that are most often linked to health problems include [\[R\]](#), [\[R\]](#):

- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

How it helps

Elevated urinary and blood cadmium levels were linked to increased cardiovascular disease mortality (34% and 78%, respectively). Similar associations were observed in never smokers. Cadmium exposure markers were also linked to coronary heart disease, stroke, peripheral artery disease, and adverse lipid profile changes. High exposure correlated with elevated total cholesterol and LDL cholesterol levels and decreased HDL cholesterol levels [\[R\]](#).

Cadmium is known to disrupt lipid metabolism, potentially leading to an increase in LDL cholesterol.

152



Bilberry

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate bilberry fruits into your diet by eating a small handful, approximately 1/4 to 1/2 cup, daily. You can also consume bilberry in the form of tea, by steeping 1-2 teaspoons of dried bilberries in hot water for about 10 minutes, up to three times a day.

Description

Bilberry is a fruit rich in antioxidants and flavonoids, which may contribute to eye health and circulatory function. It's often used in supplements for its potential to support vision and overall well-being.

How it helps

In a randomized crossover study with 80 overweight women, bilberries (100g/day) reduced triglycerides in small HDL particles in participants who had a metabolic profile that reflected higher cardiometabolic risk at baseline, but not in participants who had a lower-risk profile [\[R\]](#).

In a trial with 36 participants, frozen bilberries (150g, 3x/week for 6 weeks) reduced BMI in women but not men. Both groups experienced improvements in various blood markers including cholesterol, glucose, and liver enzymes. In men, there were additional positive changes in several markers, although LDL-C increased. Blood pressure, magnesium, and antiradical activity remained unchanged [\[R\]](#).

153



Passion Fruit Peel Extract

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 150-300 mg of passion fruit peel extract supplement daily, preferably with a meal to enhance absorption. This should be done consistently for a period of at least 4 to 8 weeks to observe potential benefits in conditions such as asthma or anxiety. Always check the supplement’s label for specific dosing instructions.

TYPICAL STARTING DOSE

150 mg

Description

Passion fruit peel extract is derived from the peel of the passion fruit (*Passiflora edulis*), a fruit native to South America. It contains carotenoids, flavonoids, and polyphenols, that are utilized for skin health and boosting the immune system.

How it helps

A placebo-controlled trial of 43 adults with dyslipidemia found that a jelly drink containing polyphenol-rich roselle calyces extract and passion fruit juice with pulp concentrate (for 8 weeks) decreased LDL-C and triglycerides. It also reduced inflammation and improved oxidative stress, as demonstrated by the reduction of tumor necrosis factor- α and malondialdehyde, and the enhancement of glutathione [\[R\]](#).

Passion fruit peel extract contains high amounts of piceatannol and scirpusin B, two antioxidants that help decrease LDL cholesterol levels.

154



Avoid Exposure to Heavy Metals

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To avoid exposure to heavy metals, ensure you're not using cosmetic products with heavy metals, opt for organic foods to minimize pesticide exposure, and use filters for drinking water to remove possible contaminants. Check for lead-based paints in older homes and avoid cooking or storing food in uncoated metal containers. When possible, choose glass or BPA-free plastics instead.

Description

Heavy metals are elements naturally found in the environment. They are also used for agricultural, industrial, and medicinal purposes. Some can even be found in small amounts in your body [\[R\]](#), [\[R\]](#).

Long-term exposure to high amounts of heavy metals can be harmful to your health [\[R\]](#), [\[R\]](#).

Heavy metals that are most often linked to health problems include [\[R\]](#), [\[R\]](#):

- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

How it helps

A study of 232 women associated elevated levels of blood cadmium, chromium, and nickel with increased total cholesterol, LDL cholesterol, and triglycerides, and decreased HDL cholesterol, as well as increased cortisol levels [\[R\]](#).

Heavy metals like lead or mercury can disrupt the body's ability to maintain healthy cholesterol levels.

155



Coffee Cherry Extract

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100-300 mg of coffee cherry extract supplement daily, preferably in the morning to avoid any potential interference with sleep. This can be consumed with or without food, and should be integrated into your daily routine for ongoing support of brain health.

TYPICAL STARTING DOSE

100 mg

Description

Coffee cherry extract, derived from the fruit surrounding coffee beans, contains antioxidants like chlorogenic acids. It has been studied for its potential to support cognitive function and overall antioxidant protection.

How it helps

In a placebo-controlled trial of 61 healthy volunteers, consuming coffee cherry pulp juice (14 g, 2x/day) for 12 weeks lowered total and LDL cholesterol [\[R\]](#).

156



Hydrogen Water

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Drink 1.5 to 2 liters of hydrogen-rich water daily, spread out over the course of the day. It is best to start with a lower volume and gradually increase it to allow your body to adjust. This practice should be continued daily as a part of your lifestyle to maintain its potential benefits.

Description

Drinking hydrogen-rich water is believed to have antioxidant properties and may help combat oxidative stress in the body. Some studies suggest it could potentially support overall health and well-being.

How it helps

In a placebo-controlled trial of 30 patients with type 2 diabetes, drinking hydrogen-rich water (900 mL/day) for 8 weeks normalized the oral glucose tolerance test in 4 out of 6 with impaired glucose tolerance and lowered LDL cholesterol (by 15.5%), small dense LDL (by 5.7%), and 8-isoprostanes (by 6.6%) [\[R\]](#).

157



Glutathione supplements

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take glutathione supplements orally, usually in pill or powder form, with a recommended dose ranging from 500mg to 1000mg daily, divided into two doses. It's best taken on an empty stomach or as directed by a healthcare professional. Continuous use is advised for sustained benefits, but consulting with a healthcare provider for personalized advice and duration is important.

Description

Glutathione (GSH) is your body’s strongest antioxidant. It has an enormous capacity to combat [oxidative stress](#) and neutralize harmful free radicals. Chemically speaking, glutathione is a tripeptide made up of 3 amino acids [\[R\]](#):

- [Glutamate](#)
- **Cysteine**
- [Glycine](#)

Low glutathione levels have been linked to cognitive decline, age-related disease, and general mortality among the elderly [\[R, R\]](#).

People take glutathione supplements to help with:

- Oxidative stress and detox
- Immune system support
- Skin aging and damage
- Exercise recovery
- Chronic diseases such as type 2 diabetes, Alzheimer's disease, Parkinson's disease, or COPD

How it helps

Sublingual glutathione supplementation decreased total and LDL cholesterol in a placebo-controlled trial of 16 men with cardiovascular risk factors. This suggests that glutathione can be a beneficial strategy for preventing vascular damage in such patients [\[R\]](#).

158

Tai Chi

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Practice Tai Chi for 30 to 60 minutes at least twice a week. Choose a quiet, spacious area and follow along with a qualified instructor, either in person at a class or through an online video tutorial, to ensure proper technique and maximum benefit.

TYPICAL STARTING DOSE

1 hour

Description

Tai Chi is a traditional Chinese mind-body practice involving slow, flowing movements and deep breathing. It is known for its potential to reduce stress, improve balance, and enhance overall physical and mental well-being.

Tai chi involves gentle movements and breathing to strengthen and relax the mind and body. Practicing tai chi may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Manage pain
- Improve fitness
- Increase well-being
- Improve sleep and mood

How it helps

A 2016 meta-analysis did not find any effect of tai chi on LDL levels [\[R\]](#).

However, a more recent meta-analysis found reductions in LDL levels due to the practice of tai chi [\[R\]](#).

159



Rutin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500mg of rutin supplement daily, preferably with a meal to enhance absorption. Continue this supplementation regularly for at least 4 weeks to evaluate its benefits on your health, as effects may take some time to become noticeable.

Description

Rutin is a flavonoid found primarily in citrus fruits, buckwheat, and tea, and is known for its antioxidant and anti-inflammatory properties. It may support cardiovascular health and promote strong blood vessels.

How it helps

A double-blind, placebo-controlled trial with 50 type 2 diabetes mellitus patients found that rutin (500 mg/day for 3 months) decreased fasting blood glucose, insulin, HbA1c, HOMO-IR, LDL-c, TG, VLDL, total cholesterol, LDL-c:HDL-c ratio, atherogenic index of plasma (AIP), IL-6, and malondialdehyde (MDA), while increasing HDL-c, quantitative insulin sensitivity check index (QUICKI), BDNF, and total antioxidant capacity (TAC). Hence rutin may improve metabolic parameters, BDNF, and inflammatory and oxidative stress factors in T2DM patients [\[R\]](#).

In a prospective, randomized, controlled study conducted on 53 type 2 diabetes patients. rutin with vitamin C and vitamin C only reduced fasting blood glucose and LDL- and total cholesterol [\[R\]](#).

Rutin may help by enhancing the body's ability to metabolize and dispose of cholesterol.

Please note: *rutin may inhibit the production of the thyroid hormone T4 (thyroxine). Individuals with thyroid disorders, particularly hypothyroidism or low T4 levels, should exercise caution when using rutin and always consult with a healthcare provider before taking this supplement [\[R\]](#).*

160



Walking Meditation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Dedicate 10-20 minutes daily to practice walking meditation, ideally in a quiet space where you can walk back and forth. Focus on the sensation of each step, maintaining a slow pace that allows you to be fully aware of the movement and feeling in your feet and body. It can be done indoors or outdoors.

TYPICAL STARTING DOSE

30 minutes

Description

Walking meditation is a mindfulness practice that combines the physical activity of walking with focused awareness and deep breathing. It is used to reduce stress, enhance mental clarity, and cultivate mindfulness.

How it helps

In a non-placebo-controlled trial of 45 elderly participants with mild-to-moderate depressive symptoms, practicing walking meditation 3x/week for 12 weeks decreased LDL-C, levels [\[R\]](#).

Walking meditation may help by burning fats, which reduces cholesterol levels. The calming effects of meditation also help to reduce stress, which is often linked to high cholesterol levels.

161



Stair Climbing

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate stair climbing into your daily routine by choosing stairs over elevators or escalators whenever possible. Aim for at least 10 minutes of continuous stair climbing or multiple shorter sessions that add up to 10 minutes per day. This practice can be continued indefinitely to maintain or improve cardiovascular health and lower body strength.

TYPICAL STARTING DOSE

10 minutes

Description

Stair climbing is a great way to get a full-body workout, improve your cardiovascular health, and burn calories. It can also help to improve your balance and coordination.

How it helps

A randomized controlled trial with 15 healthy sedentary women found that stair climbing (progressively increased from 1 ascent (2 min)/day in week 1 to 5 ascents/day in weeks 7 and 8. 5 days/week on a public access staircase, 199 steps, at a stepping rate of 90 steps/min) increased VO2max (by 17.1%) and reduced LDL cholesterol (by 7.7%) without changing total cholesterol, high-density lipoprotein cholesterol, triglycerides, or homocysteine [\[R\]](#).

Stair climbing may help by boosting HDL cholesterol and improving heart health.

162



Bhringaraj (Eclipta Alba)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a bhringaraj supplement in capsule form, approximately 250 mg twice daily with meals. Continue this regimen for at least 3 to 6 months to potentially see benefits.

TYPICAL STARTING DOSE

500 mg

Description

Bhringaraj is an herbal remedy traditionally used in Ayurvedic medicine for its potential to promote hair and scalp health. It is believed to nourish hair follicles and improve hair texture and quality, often used in natural hair care products and treatments. According to preliminary evidence, it may also have certain metabolic benefits.

How it helps

Eclipta alba supplementation significantly reduced LDL-cholesterol by 24% in mildly hypertensive men aged 40-55 over 60 days, indicating its potential benefit in lipid management and cardiovascular health [\[R\]](#).

163



Apples

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate at least one whole apple into your daily diet, either as a snack or part of your meals, ensuring to eat them consistently every day for an ongoing period to derive potential health benefits.

Description

Apples are a nutritious fruit known for their fiber content and antioxidant-rich skin. They support overall health by aiding digestion, reducing the risk of chronic diseases, and promoting heart health.

Apples (*Malus domestica Borkh.*) are one of the most widely consumed fruits in the world. They have a high nutritional value and content of antioxidants [\[R\]](#) [\[R\]](#).

Eating apples is associated with a lower risk of [\[R\]](#) [\[R\]](#):

- Heart disease
- Asthma
- Diabetes

How it helps

Consuming two apples daily reduced total and LDL cholesterol, triglycerides, and cell adhesion molecules while increasing uric acid and microvascular vasodilation in mildly hypercholesterolemic volunteers. No impact on blood pressure or other cardiovascular markers was observed [\[R\]](#).

A 5x4 weeks dietary crossover study with 23 healthy volunteers investigated apple-related supplements' effects on lipoproteins and blood pressure. Whole apples, pomace, and cloudy juice showed potential LDL-cholesterol reduction, while clear juice increased LDL-cholesterol. No impact on other parameters was observed [\[R\]](#).

A randomized crossover trial with 30 healthy participants found that apple, spinach, and apple+spinach treatments improved blood vessel function and lowered blood pressure compared to the control, with apple and spinach also reducing systolic blood pressure significantly. No significant impact on diastolic blood pressure was observed [\[R\]](#).

Out of 22 eligible studies (7 randomized controlled trials, 1 nonrandomized trial, and 14 prospective observational studies), apple intake in RCTs lowered BMI but had no notable impact on body weight, serum lipids, blood glucose, or blood pressure [\[R\]](#).

However, a double-blind study with 30 hypercholesterolemic volunteers found no difference in vascular function or cardiovascular risk factors after consuming polyphenol-rich and polyphenol-poor apples for 4 weeks each [\[R\]](#).

164



Nattokinase and Red Yeast Rice

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100mg of nattokinase and 1,200mg of red yeast rice daily with water. It is best consumed with food to enhance absorption and reduce any potential gastrointestinal discomfort. This regimen should be followed consistently for at least 3-6 months to evaluate effectiveness.

Description

Nattokinase is an enzyme derived from natto (fermented soybean) and is believed to have potential blood-thinning properties, potentially supporting cardiovascular health by promoting healthy blood circulation. Red yeast rice is a natural product made from fermented rice and contains compounds that may help lower cholesterol levels and support heart health when used as a dietary supplement.

How it helps

In a 6-month placebo-controlled trial of 47 patients with hyperlipidemia, the combination of nattokinase (50 mg, 4x/day) and red yeast rice (300 mg, 4x/day), but not nattokinase alone, lowered LDL-cholesterol (by 41%) [\[R\]](#).

Nattokinase aids in breaking down blood clots, which can reduce overall cholesterol levels. Red yeast rice contains components similar to statins; these help to restrict cholesterol production in your body, reducing LDL levels.

165



Grapefruit Pectin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 5 to 10 grams of grapefruit pectin supplement daily, preferably with a meal to enhance absorption. This regimen should be followed consistently for a period of at least a few weeks to assess its effects on your health.

TYPICAL STARTING DOSE

5 g

Description

Grapefruit Pectin is a fiber found in the walls of grapefruit. It aids in improving digestion and cholesterol levels. Additionally, it can help manage blood sugar levels, making it beneficial for overall heart health and metabolism.

How it helps

According to one study in individuals at risk for heart disease, supplementation with grapefruit pectin (for 16 weeks) may reduce plasma cholesterol (by 7.6%), LDL cholesterol (by 10.8%), and the LDL to HDL cholesterol ratio (by 9.8%) without altering their diet or lifestyle [\[R\]](#).

Please note: *Grapefruit juice can interact with many medications, including those for high cholesterol, high blood pressure, anxiety, and more. If you are taking medications, make sure to consult your doctor before eating grapefruit or drinking grapefruit juice [\[R\]](#).*

166



Pyrroloquinoline Quinone (PQQ)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 20 to 40 mg of Pyrroloquinoline Quinone (PQQ) daily as an oral supplement, ideally with meals to enhance absorption. This dosage can be maintained indefinitely as part of your daily supplement routine.

TYPICAL STARTING DOSE

20 mg

Description

PQQ is a micronutrient found in foods like spinach, green tea, and kiwifruit. It acts as a cofactor for enzymes involved in energy metabolism and may support mitochondrial health, which is essential for overall cellular function and vitality.

Pyrroloquinoline quinone (PQQ), also known as methoxatin, is a compound that helps enzymes work better. PQQ is also involved in the production of new mitochondrias. By doing so, PQQ helps improve [\[R\]](#), [\[R\]](#):

- Energy levels
- Antioxidant protection
- Growth
- Reproduction

How it helps

In a placebo-controlled trial of 29 healthy adults with moderately high triglyceride and LDL levels, supplementation with PQQ for 12 weeks marginally decreased LDL levels [\[R\]](#).

167



Theaflavins

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement containing 100-200mg of theaflavins daily, preferably with a meal to enhance absorption. This regimen should be maintained consistently for at least 3 to 6 months to evaluate its benefits on health.

Description

Theaflavins are antioxidants found in black tea, particularly after fermentation. They are associated with various potential health benefits, including supporting heart health and reducing oxidative stress.

How it helps

Consuming theaflavin-enriched green tea as an add-on to a low-fat diet for 12 weeks decreased LDL cholesterol (by 16.4%) in a placebo-controlled trial of 240 participants. However, purified black tea theaflavins (77.5 mg/day, taken for 11 weeks) failed to lower it in moderately hypercholesterolemic subjects [R, R].

Theaflavins may help lower total cholesterol by blocking cholesterol absorption in the intestine and enhancing its excretion from the body.

168



Bacillus Coagulans

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a Bacillus coagulans supplement containing 1 to 2 billion CFUs (colony forming units) daily, with a glass of water, preferably with meals. This routine should be consistently followed for at least four weeks to potentially see benefits.

Description

Bacillus coagulans is a probiotic strain believed to support digestive health and boost the immune system. It's used in various probiotic supplements and may aid in maintaining gut balance.

How it helps

In a placebo-controlled trial of 40 healthy overweight participants, consuming whole-grain pasta with barley β -glucans and *B. coagulans* BC30, 6086 for 12 weeks lowered GGT, CRP, and LDL:HDL ratio [R].

In a placebo-controlled trial of 53 patients with NAFLD, taking a synbiotic with *B. coagulans* (GBI-30, 109 cfu) and inulin for 12 weeks lowered ALT, GGT, TNF-alpha, NF-kB, and hepatic steatosis [R].

169



Chamomile

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take chamomile supplements in the form of capsules or tablets, usually ranging from 300 to 400 mg, up to three times daily between meals. If using chamomile tea as a supplement, drink 1 to 4 cups daily.

TYPICAL STARTING DOSE

300 mg

Description

Chamomile is an herbal remedy derived from the dried flowers of the chamomile plant. It is widely used for its calming and soothing properties

Chamomile is an herb native to Africa, Asia, and Europe. It was used as a traditional herbal remedy in ancient Greece, Rome, and Egypt. Today, chamomile is used in cosmetics, aromatherapy, tea, and supplements. It may help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Skin problems
- Period cramps
- Gut problems
- Sleep quality
- Mood

How it helps

In a placebo-controlled trial of 64 subjects with type 2 diabetes, drinking chamomile tea (3 g/150 mL hot water) 3x/day after meals for 8 weeks lowered HbA1c, serum insulin, insulin resistance, total cholesterol, LDL cholesterol, triglycerides, and MDA [\[R\]](#), [\[R\]](#).

170



Rose Hip

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a 500 mg rose hip supplement daily, preferably with a meal to aid absorption.

TYPICAL STARTING DOSE

500 mg

Description

Rose hip is the fruit of the wild rose plant and is commonly used in various forms, such as oil or extract. It's rich in nutrients like vitamin C, antioxidants, and essential fatty acids, making it valuable for skincare and immune health.

Rose hips are round fruits found on rose plants [\[R\]](#).

They're a **good source of vitamin C and other antioxidants**. Some compounds in rose hips are also **anti-inflammatory** [\[R, R, R\]](#).

How it helps

In a placebo-controlled trial of 31 obese participants, consuming a rose hip powder drink (40 g/day) for 6 months lowered systolic blood pressure (by 3.4%) LDL cholesterol (by 6%), and LDL:HDL (by 6.5%), as well as the risk of heart disease (by 17%) [\[R\]](#).

171



Royal Jelly

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a royal jelly supplement daily, starting with a dose of approximately 300 mg to 500 mg. It can be consumed either in capsule form or directly, depending on your preference, for a period ranging from 3 to 6 months to observe the potential health benefits.

TYPICAL STARTING DOSE

300 mg

Description

Royal jelly is a nutrient-rich substance secreted by worker bees to feed bee larvae and the queen bee. Royal jelly contains protein B-vitamins, calcium and iron. It is taken as a supplement for it's potential energy-boosting and immune-supporting properties.

How it helps

In 2 placebo-controlled trials of 55 participants with mild hypercholesterolemia, taking royal jelly capsules (3.15-6 g/day) for 1-3 months lowered total, LDL, and VLDL cholesterol [\[R\]](#).

Royal jelly may help by inhibiting cholesterol absorption in your gut and reducing its production in your liver.

172



Onion

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate raw or cooked onions into your daily meals, aiming for about a half to one whole onion per day, depending on your taste preference and tolerance. This can be done by adding onions to salads, sandwiches, soups, or as a cooked ingredient in various dishes.

Description

Onions are a flavorful and versatile vegetable grown around the world. They are rich in antioxidants, vitamins, and minerals, like B-vitamins, vitamin C, phosphorus, and magnesium. Incorporating onions into your diet may promote heart health, improve immune function, and contribute to overall well-being.

How it helps

In a study of overweight or obese women with PCOS, high onion intake (2x40-50g/day for overweight and 2x50-60g/day for obese) reduced total and LDL cholesterol, while not affecting other parameters [R].

Onions are packed with quercetin and sulfur compounds, which have demonstrated properties in reducing LDL cholesterol levels.

173



Eleuthero

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take an eleuthero supplement of 300 to 1200 mg daily, usually divided into two or three doses. It is recommended to follow this dosage for up to 6 weeks, after which a break or consultation with a healthcare provider is advised.

TYPICAL STARTING DOSE

300 mg

Description

Eleuthero, also known as Siberian ginseng, is an adaptogenic herb that may help the body cope with stress, support immune function, and increase energy levels. It's used in herbal remedies to promote resilience and vitality.

How it helps

In a placebo-controlled trial of 40 postmenopausal women, supplementation with eleuthero as an add-on to calcium for 6 months reduced LDL-cholesterol (by 17.21 mg/dL) and the LDL:HDL ratio (by 0.29) [R].

174



Dietary Selenium

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Incorporate selenium-rich foods into your daily diet, such as Brazil nuts, seafood, and organ meats. Eating 1-2 Brazil nuts a day can meet the daily selenium requirement for most adults.

Description

Selenium is a trace mineral found in various foods, including nuts, seeds, and seafood. It is an essential nutrient that plays a crucial role in maintaining the body's antioxidant defenses and supporting thyroid function.

[Selenium](#) supports [\[R\]](#):

- Reproduction
- Thyroid function
- DNA production
- Immune response

Adults should be getting **55 micrograms** of selenium per day. Good sources of selenium include [\[R\]](#):

- Brazil nuts
- Fish
- Meat
- Eggs
- Rice
- Oatmeal

How it helps

Genetically higher selenium levels may be causally associated with lower LDL and HDL cholesterol [\[R\]](#).

However, supplementation may not significantly impact LDL cholesterol [\[R, R, R, R\]](#).

175



Swimming

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate swimming into your routine for at least 30 minutes, 3 times a week. Choose a pace and stroke that keeps your heart rate elevated yet allows you to breathe comfortably. Continue this practice regularly for long-term health benefits.

TYPICAL STARTING DOSE

30 minutes

Description

Swimming is a whole-body workout that engages various muscle groups, promoting strength and endurance. It helps keep the heart and lungs healthy, improves flexibility, and can even help reduce stress. Regular swimming is a great way to maintain a balanced, fit, and healthy lifestyle.

How it helps

In a non-placebo-controlled trial of 116 sedentary women, supervised swimming for 6 months decreased LDL-C levels [\[R\]](#).

176



Bifidobacterium Lactis HN019

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

TYPICAL STARTING DOSE

10 billion CFU

Description

[Bifidobacterium animalis](#) is a [probiotic](#) bacterium that can be found in the healthy gut of most mammals, including humans. *B. lactis* was previously considered to be a separate species but was shown to be a subspecies of *B. animalis* [\[R\]](#), [\[R\]](#).

People mainly take *B. animalis* to support gut health [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

B. lactis HN019 is a strain known for its resilience to stomach acid and bile, which allows it to survive the harsh conditions of the gastrointestinal tract and colonize the gut effectively. It may help improve gastrointestinal function, alleviate symptoms of irritable bowel syndrome, enhance immune response, and reduce the risk of certain infections.

How it helps

In a placebo-controlled trial of 51 patients with metabolic syndrome, consuming 80 mL/day milk fermented with *Bifidobacterium lactis* HN019 (2.72 x 10^10 cfu/day) for 45 days reduced BMI, total cholesterol, LDL cholesterol, TNF-alpha, and IL-6 [\[R\]](#).

177



Wakame and Carob

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate wakame, a type of edible seaweed, and carob, a chocolate substitute, into your diet regularly. You can add wakame to soups, salads, or sushi and use carob powder to make smoothies, baked goods, or as a cocoa powder alternative in recipes. Aim to include these foods several times a week for ongoing dietary benefits.

Description

Wakame is a type of edible seaweed commonly found in Asia, and it is rich in minerals, particularly iodine. It is used to support thyroid function due to its iodine content and is known for potential benefits in promoting heart health and aiding in weight management. Carob is a legume-derived food often used as a cocoa substitute, particularly in Mediterranean regions. It is naturally caffeine-free, lower in fat than cocoa, and a source of dietary fiber. Carob is used as a healthier alternative for chocolate, particularly for those with caffeine sensitivity.

How it helps

In a placebo-controlled trial of 40 obese participants, consuming a snack with wakame and carob for 8 weeks decreased LDL-C (by 7.4%), and resistin (by 15.9%) [\[R\]](#).

178



Apple Cider Vinegar

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate 1-2 tablespoons of apple cider vinegar into your diet daily by diluting it in a large glass of water. Consume this mixture before meals to potentially benefit from its effects.

Description

Apple cider vinegar is a fermented liquid made from crushed apples and is known for its potential health benefits. It is rich in acetic acid and may aid in weight management, improve digestion, and help regulate blood sugar levels, often used as a natural remedy for various conditions like acid reflux and insulin resistance.

[Vinegar](#) is often used in cooking to add sour flavor and to preserve foods through pickling. Some people also use vinegar for cleaning [\[R\]](#).

Apple cider vinegar is one of the most common vinegars produced from apples. As a health food, apple cider vinegar may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reduce blood sugar
- Lower cholesterol
- Fight infections

How it helps

A study found significant reductions in total cholesterol, triglyceride, and LDL cholesterol levels after eight weeks of consuming apple cider vinegar. This suggests a beneficial effect in reducing harmful blood lipids, making it a simple and cost-effective treatment for hyperlipidemia [\[R\]](#).

179



Coriander

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take coriander supplements in the form of capsules or powder. If using powder, aim for 1/4 to 1/2 teaspoon per day, mixed into food or drinks. If taking capsules, follow the dosage instructions provided on the product label, typically one capsule, one to two times daily with meals. Continue consistently for at least a few weeks to observe effects.

Description

Coriander is an herb and spice rich in antioxidants and essential oils. It's used in culinary dishes and traditional medicine for its potential to aid digestion, reduce inflammation, and contribute to overall nutritional wellness.

How it helps

In a non-placebo-controlled trial of 80 hyperlipidemic patients, supplementation with coriander seed powder (2 g/day), both alone and combined with the same amount of garlic powder, for 40 days lowered LDL-cholesterol [\[R\]](#).

180



Celery Seed

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a celery seed supplement capsule of 600-1000 mg daily with a glass of water, preferably with a meal to aid absorption and minimize potential stomach discomfort. Continue this regimen for at least 4-6 weeks to evaluate its effects on your condition.

TYPICAL STARTING DOSE

600 mg

Description

Celery seed extract is a natural supplement derived from the seeds of the celery plant, known scientifically as **Apium graveolens**. This extract is rich in various bioactive compounds, including flavonoids, linoleic acid, and volatile oils like limonene and selinene. These compounds contribute to its potential health benefits, which may include anti-inflammatory properties, support for joint health (often used in treating conditions like arthritis), and assistance in managing blood pressure levels. Celery seed extract is available in various forms, including capsules, tablets, and tinctures, and is often used in traditional medicine for its diuretic and antispasmodic effects.

How it helps

In a placebo-controlled trial of 51 patients with hypertension, supplementation with celery seed extract (1.34 g/day) for 4 weeks reduced LDL cholesterol by 11.84 mg/dL [\[R\]](#).

Celery seed is rich in a type of chemicals called phthalides that can increase bile production, aiding the liver in removing cholesterol from the body.

181



Okra

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take okra supplements in the form of capsules or powder. If using capsules, consume 1-2 capsules daily with water, preferably with a meal. If using powder, mix one teaspoon into a glass of water or into a smoothie once daily. Continue this routine for at least 8-10 weeks to observe potential health benefits.

Description

Okra is a flowering plant of the mallow family, rich in vitamins, minerals, and fiber, offering potential benefits for digestive health, blood sugar control, and overall nutrition.

How it helps

In a placebo-controlled trial with 60 type 2 diabetes patients, consuming okra powder blended with yogurt for 8 weeks reduced LDL-cholesterol and the LDL:HDL ratio. Another placebo-controlled trial involving overweight and obese participants found that a combination of dehydrated okra pods and inulin lowered total and LDL-cholesterol levels in those with high baseline levels over 6.2 mmol/L after 12 weeks of supplementation [\[R\]](#), [\[R\]](#).

Okra contains soluble fiber, which can help in lowering LDL-cholesterol levels by promoting its excretion in feces. Additionally, it is packed with antioxidants that prevent the oxidation of LDL cholesterol.

182



Bee Pollen And Honey

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Consume 1 teaspoon of bee pollen mixed with 1 tablespoon of honey daily. This mixture can be added to your breakfast, such as yogurt or oatmeal, or taken directly. Continue this regimen for at least one month to observe benefits.

Description

Bee pollen is a natural product collected by bees and is rich in vitamins, minerals, and antioxidants. It is believed to have various health benefits, including potential anti-inflammatory and immune-boosting properties. Honey is a natural sweetener with potential antibacterial and antioxidant properties.

How it helps

The combination of honey and bee pollen decreased total cholesterol (by 18.3%) in a non-placebo-controlled trial of 157 patients with atherogenic dyslipidemia [\[R\]](#).

Bee pollen contains nutrients, antioxidants, and enzymes which are known to increase HDL cholesterol and reduce LDL cholesterol levels.

183



Cabbage

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate fresh cabbage into your diet by adding it to salads, soups, stews, or as a side dish steamed or lightly sautéed. Aim for at least 2-3 servings of cabbage per week, where one serving is approximately one cup chopped or two leaves.

Description

Cabbage is a cruciferous vegetable rich in vitamins, fiber, and antioxidants. It's known for its potential to support digestive health, provide essential nutrients, and contribute to a balanced diet.

Cabbage is a great source of vitamins C and K, with decent amounts of other vitamins and minerals like folate and manganese. A ½ cup serving provides 16 mg of vitamin C or 18%DV.

How it helps

Cabbage is high in soluble fiber, which helps lower LDL cholesterol by obstructing the absorption of cholesterol into your bloodstream. Additionally, it contains antioxidants and other compounds that aid in reducing inflammation and prevent the accumulation of harmful LDL cholesterol particles.

In a study with 49 participants with mild to moderate hypercholesterolemia, those in the test group, receiving a sample containing B&C, experienced a significant reduction in LDL-C levels (8.5%) at 9 weeks, while the control group showed no significant reduction. Significant differences were observed between the groups in LDL-C levels at 6 and 9 weeks, as well as total cholesterol levels at 9 weeks [\[R\]](#).

184



Persimmon

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a dried persimmon supplement of 100-200mg daily, with water, preferably in the morning after breakfast. Continue this routine for at least 4-8 weeks to observe potential health benefits.

Description

Persimmon is a tropical fruit that comes from a variety of Diospyros trees . It has been used traditionally in Asian countries for centuries. Persimmons are a good source of nutrients, including vitamin A, vitamin C, dietary fiber, and various antioxidants like beta-carotene and flavonoids, which may support immune function and healthy skin.

How it helps

In a placebo-controlled trial of 40 subjects with elevated cholesterol, consuming cookie bars with tannin-rich fiber from persimmon (3-5 g) 3x/day for 12 weeks lowered total cholesterol (at both doses) and LDL cholesterol (only at the highest dose) [\[R\]](#).

185



Lactobacillus Salivarius

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a probiotic supplement containing Lactobacillus salivarius daily, preferably with a meal to enhance absorption. The exact dosage can vary, but a common amount is around 10 billion CFUs (colony forming units). It is generally recommended to continue taking the probiotic for at least four weeks to observe benefits.

TYPICAL STARTING DOSE
10 billion CFU

Description

Lactobacillus saliverius is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

How it helps

In a placebo-controlled trial of 45 healthy volunteers, supplementation with *L. salivarius* UBL S22 for 6 weeks lowered total cholesterol and LDL cholesterol, especially in combination with prebiotic fructo-oligosaccharide [R].

In a placebo-controlled trial of 149 women with gestational diabetes, supplementation with *L. salivarius* UCC118 for 4-6 weeks failed to improve glycemic control but attenuated the gestation-related rise in LDL cholesterol [R].

L. salivarius may help by absorbing cholesterol in the gut, thus preventing it from being absorbed into the bloodstream.

186

Pentadecanoic Acid (C15:0)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

While there is no officially recommended daily intake for pentadecanoic acid, research suggests that **20–50 mg per day** may support health benefits such as improved metabolism, reduced inflammation, and enhanced cellular health. You can achieve this through a balanced diet rich in full-fat dairy and fatty fish or by taking supplements as directed. Always consult with a healthcare professional before starting supplementation, especially if you have specific health conditions or dietary restrictions.

Description

Pentadecanoic acid, also known as C15:0, is a 15-carbon saturated fatty acid that belongs to the group of odd-chain fatty acids. It is naturally found in full-fat dairy products (e.g., milk, butter, and cheese), certain fish, and some plant sources. Unlike even-chain fatty acids, pentadecanoic acid has unique biological properties that are being increasingly studied for its potential health benefits.

Supplementation with pentadecanoic acid has shown promise in supporting metabolic health by improving cholesterol levels, enhancing insulin sensitivity, and reducing inflammation. It may also promote cellular health by stabilizing cell membranes and improving mitochondrial function. Additionally, C15:0 has been linked to better immune system regulation, neuroprotection, and potentially reducing the risk of chronic diseases like diabetes and cardiovascular conditions. As an emerging "essential fatty acid," it is gaining attention for its role in promoting long-term health and wellness.

How it helps

In a placebo-controlled trial of 88 Chinese women with NAFLD, eating a Mediterranean diet supplemented with pentadecanoic acid for 12 weeks lowered LDL cholesterol better than a Mediterranean diet alone [\[R\]](#).

187



Olive Leaf Extract

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500-1000 mg of olive leaf extract daily, ideally in divided doses with meals. This regimen should be followed for at least 8 weeks to assess its effects on your health.

TYPICAL STARTING DOSE

500 mg

Description

Olive leaf extract is derived from the leaves of the olive tree and contains bioactive compounds such as oleuropein. It is believed to have various health benefits, including antioxidant and anti-inflammatory properties that may contribute to improved immune function and overall well-being.

How it helps

Supplementation with olive leaf extract reduced LDL cholesterol (by 0.19 mmol/L) in prehypertensive men. A beverage with olive leaf extract also lowered LDL cholesterol in prediabetic subjects. However, olive leaf extract had no effect on blood lipids in overweight and obese participants. A multi-ingredient supplement containing grapefruit, bitter orange, and olive extracts reduced LDL cholesterol in healthy volunteers [R, R, R, R].

In a placebo-controlled trial of 64 patients with osteopenia, supplementation with olive extract (250 mg/day) and calcium (1000 mg/day) for 12 months increased osteocalcin levels, maintained BMD, and decreased total and LDL cholesterol [R].

Olive leaf extract contains oleuropein and hydroxytyrosol, compounds known to reduce LDL cholesterol.

188



Sulforaphane

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a sulforaphane supplement, typically available in capsule form, with a dosage ranging from 30 to 60 milligrams per day. It is generally taken once daily, with or without food, according to the product's label instructions or a healthcare provider's advice. Continue this regimen daily for as long as you seek its benefits, but consult a healthcare provider for long-term use guidance.

TYPICAL STARTING DOSE

30 mg

Description

Sulforaphane is a natural compound found in cruciferous vegetables like broccoli and cauliflower. It is known for its potent antioxidant and anti-inflammatory properties, potentially offering protective effects against chronic diseases and promoting overall health.

How it helps

In a placebo-controlled trial of 130 volunteers, high-sulforaphane broccoli (400 g, taken for 12 weeks) was more effective than standard broccoli at lowering LDL cholesterol (by 5.1-7.1% vs 1.8-2.5%) [R].

189



Prune Essence Concentrate

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 30 milliliters of prune essence concentrate daily, ideally in the morning. It can be consumed directly or diluted in a glass of water. Continue this routine daily for at least 4 weeks to assess its benefits.

Description

Prune essence concentrate is a concentrated form of prune juice that retains the nutritional benefits of prunes, including dietary fiber and sorbitol. It is known for its potential to support digestive regularity and provide a natural source of energy.

How it helps

Sixty mildly hypercholesterolemic individuals were divided into three groups: placebo, PEC I (50 mL of PEC/day), and PEC II (100 mL of PEC/day) for 4 weeks, with 2 weeks of follow-up without PEC consumption. Both PEC groups showed significant reductions in total cholesterol and LDL cholesterol, with no changes in other lipid parameters [\[R\]](#).

190



Deep Seawater

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate deep seawater into your diet by drinking 1-2 glasses per day, preferably one in the morning and another in the evening. Deep seawater can also be used as an alternative to regular water for cooking, such as in soups or for boiling rice, to enhance mineral intake.

Description

Deep seawater is water found really deep in the ocean where light can't reach. It is very pure and filled with healthy minerals due to lack of pollution. Because of these benefits, it can be used to improve health and wellness.

How it helps

A study in 42 hypercholesterolemic volunteers found that drinking filtered deep seawater (1050 mL/day for 6 weeks) decreased total cholesterol, LDL cholesterol, and TBARS levels. In a study of 78 participants with hypercholesterolemia, drinking deep sea water for 8 weeks reduced total cholesterol in those with moderately high levels, LDL cholesterol in those with high values, and lipoprotein A levels in all participants regardless of baseline levels [\[R\]](#), [\[R\]](#).

Please note: Seawater contains much more salt than the human body can handle. Hence, the human body can safely ingest only small amounts of seawater. Drinking seawater may increase the risk of gastrointestinal infections [\[R\]](#), [\[R\]](#).

191



Gamma-Oryzanol

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 300-600mg of gamma-oryzanol supplements daily, ideally with meals to enhance absorption. This dosage can be divided into two to three smaller doses throughout the day. Continue this supplementation for 4 to 9 weeks to observe potential benefits.

Description

Gamma oryzanol is a compound found in rice bran oil and other grains. It is believed to have antioxidant properties and may be used to support cardiovascular health and reduce symptoms of menopause.

How it helps

In a placebo-controlled trial of 59 hyperlipidemic subjects, incorporating 30 mL/day rice bran oil (with 4,000-11,000 ppm gamma-oryzanol) into daily meals for 4 weeks lowered LDL-C (by 8-12.2%) and increased antioxidant capacity. Consuming 50 g/day of rice bran oil (with 0.05 or 0.8 g/day gamma-oryzanol) for 4 weeks lowered LDL cholesterol (by 10.5%) and the LDL:HDL ratio (by 18.9%) in a placebo-controlled trial of 30 mildly hypercholesterolemic men [\[R\]](#), [\[R\]](#).

Gamma-oryzanol may reduce cholesterol absorption while enhancing its elimination.

192



Shilajit

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a pea-sized portion (approximately 500mg) of purified shilajit resin and dissolve it in warm water, tea, or milk. Consume this once daily, ideally in the morning on an empty stomach for best absorption. Continue this routine daily for 6 to 8 weeks to observe benefits.

TYPICAL STARTING DOSE

500 mg

Description

[Shilajit](#), also known as shilaras or bitumen, is a tar-like substance that oozes from sedimentary rocks worldwide, especially in the Himalayas. It is made of rock humus, minerals, and organic substances (e.g., marine organisms) decomposed by microbes and compressed by layers of rock [\[R\]](#).

Shilajit is called a rasayana (rejuvenator) and a maharasa (super-vitalizer) in Ayurveda (indigenous Indian medicine). It is traditionally used to [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Boost energy levels
- Improve memory and focus
- Fight stress
- Manage male reproductive disorders

Shilajit is sold as capsules or powder [\[R\]](#).

How it helps

In a placebo-controlled trial of 30 medical students, supplementation with shilajit (2 g) for 45 days lowered LDL-cholesterol levels (by 18.5 mg/dL) [\[R\]](#).

193



Bifidobacterium Animalis Subsp. Lactis

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement containing Bifidobacterium animalis subsp. lactis at a dose of 10 billion colony-forming units (CFU) daily, with or without food. Joe's preferred strain is *B lactis* HN019 (10B CFU). Continue this regimen daily for at least 2 weeks to 4 weeks to observe potential benefits.

TYPICAL STARTING DOSE
10 billion CFU

Description

Bifidobacterium animalis lactis is a specific strain of probiotic bacteria known for its potential to support digestive health and immune function.

[Bifidobacterium animalis](#) is a [probiotic](#) bacterium that can be found in the healthy gut of most mammals, including humans. *B. lactis* was previously considered to be a separate species but was shown to be a subspecies of *B. animalis* [\[R\]](#), [\[R\]](#).

People mainly take *B. animalis* to support gut health [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

In a 6-month randomized trial, CAD patients were divided into a probiotic group (received Bifidobacterium lactis Probio-M8, atorvastatin, and metoprolol) and a placebo group (received placebo, atorvastatin, and metoprolol). The probiotic group showed significant improvements in Seattle Angina Questionnaire (SAQ) scores, reduced depression and anxiety, and lower levels of interleukin-6 and LDL cholesterol compared to the placebo group [\[R\]](#).

194



Alpha-Linolenic Acid (ALA)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate foods high in alpha-linolenic acid (ALA) into your daily diet. This means eating about a tablespoon (14 grams) of flaxseeds or chia seeds, a quarter cup (30 grams) of walnuts, or using one tablespoon of flaxseed oil every day.

Description

Alpha-linolenic acid (ALA) is a type of omega-3 fatty acid found in plant-based sources like flaxseeds, chia seeds, and walnuts. It is essential for maintaining heart and brain health and is considered a healthy dietary fat.

How it helps

Dietary ALA has positive effects on cholesterol, blood pressure, and inflammation, contributing to cardiovascular benefits. It may also reduce diabetes risk and potentially counteract cognitive impairment. Inconclusive evidence exists for metabolic syndrome and obesity benefits [\[R\]](#).

In a study involving 1305 individuals in the ALA group and 1325 in the control group, dietary ALA intake significantly reduced TG, TC, LDL-C, VLDL-C, TC/HDL-C ratio, and LDL-C/HDL-C ratio, but had no effect on HDL-C levels [\[R\]](#).

In a review of 14 studies, ALA had a significant effect on three out of 32 outcomes. It reduced fibrinogen levels (0.17 micromol/l) and fasting plasma glucose (0.20 mmol/l) but did not significantly impact other factors like total cholesterol, triglycerides, weight, BMI, LDL, blood pressure, VLDL, and apolipoprotein B [\[R\]](#).

In kidney disease patients, a meta-analysis of 19 studies revealed that ALA supplementation significantly reduced C-reactive protein (CRP) levels (WMD: -1.32), indicating anti-inflammatory effects. However, it had no significant impact on total cholesterol, high-density lipoprotein, low-density lipoprotein, and triglyceride levels [\[R\]](#).

195



Hatha Yoga

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Practice Hatha Yoga for 60 minutes at least twice a week. Choose a quiet, comfortable space and consider guided sessions for beginners or those unfamiliar with the poses. Consistency over a period of months to years is beneficial for appreciating its full effects.

TYPICAL STARTING DOSE

1 hour

Description

Hatha yoga is a gentle and accessible form of yoga that combines physical postures, breathing exercises, and meditation. Practicing hatha yoga regularly can promote flexibility, stress reduction, and overall physical and mental well-being.

How it helps

A cross-sectional study found no differences in arterial compliance and endothelial function between yoga practitioners and sedentary individuals. An intervention study with 13 sedentary adults showed decreased hemoglobin A1c and total cholesterol after 12 weeks of Hatha yoga, but no change in arterial compliance or endothelial function [R].

A total of 30 healthy, female Chinese subjects were recruited and randomized into a control or [HATHA] yoga practice group. The yoga practice included 8 wks of yoga practice (2 times/wk) for a total of 16 times. Yoga practice significantly reduced plasma cholesterol, LDL-cholesterol, insulin levels, and CD31+/CD42b- EMPs [R].

196



Pilates

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Engage in Pilates exercises for at least 20-30 minutes, 3 times a week. Focus on core strength, flexibility, and mindful breathing. It is suitable for both beginners and advanced individuals, adjusting the difficulty of exercises as necessary.

TYPICAL STARTING DOSE

30 minutes

Description

Pilates is a form of exercise that focuses on strengthening the core, improving flexibility, and enhancing overall body awareness through controlled movements and breathing techniques. Its health benefits include increased core strength, improved posture, enhanced flexibility, and better balance, making it a popular choice for those seeking a holistic approach to fitness.

Pilates is a type of exercise that emphasizes proper alignment, breathing techniques, and precise movements.

It involves a series of controlled movements performed on a mat or with specialized equipment, such as a reformer or Cadillac. Pilates helps strengthen the core muscles, improve flexibility, and promote mind-body awareness.

How it helps

In a non-placebo-controlled trial of 196 overweight or obese women, practicing Pilates for 10 weeks lowered total cholesterol (by 5.3%), non-HDL cholesterol (by 8.3%), LDL cholesterol (by 7.5%), and triglycerides (by 6%), while increasing HDL cholesterol (by 3.1%). However, Nordic walking was more effective. A hypoxic pilates intervention (3x/day for 12 weeks) improved total cholesterol and triglycerides in a non-placebo-controlled trial of 32 obese women. However, Pilates failed to improve blood lipid profile in a non-placebo-controlled trial of 35 sedentary women with dyslipidemia [\[R, R, R\]](#).

Pilates is a form of exercise that helps to increase heart rate, thereby boosting metabolism and burning fats. It also reduces stress, a known contributor to high LDL cholesterol levels.

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Avoid Lead Exposure

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Prevent lead exposure by using cold water for drinking and cooking, regularly cleaning dust from windowsills and floors, and ensuring that your home's paint is not chipping if it was built before 1978. For occupations involving potential lead exposure, use protective gear and follow safety protocols. Test your home for lead if it's old or you're concerned about contamination.

Description

Lead is a heavy metal. It is naturally found in the environment in small amounts [\[R\]](#), [\[R\]](#).

Exposure to lead can cause it to build up in the body. A buildup of lead can contribute to oxidative stress and cell damage. This is called **lead poisoning** [\[R\]](#), [\[R\]](#).

Lead is no longer used in the manufacturing of some products like gasoline and paint. However, it can still be found in some pipes, batteries, and the wall paint of older homes [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

A study of 2591 Korean adults found significant associations between increased blood lead and changes in serum lipid, as well as with a higher risk of dyslipidemia [\[R\]](#).

In a study of 43,196 participants from the NHANES database, high blood lead levels were significantly associated with a 41% higher risk of hyperlipidemia [\[R\]](#).

In another NHANES study, people in the highest lead quartile (>1.90 µg/dL) had higher risks of elevated total cholesterol, non-HDL cholesterol, LDL cholesterol, and ApoB [\[R\]](#).

198



Baicalin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take baicalin supplements in doses ranging from 50 to 500 mg per day. Choose a high-quality supplement and consult with a healthcare provider before beginning, especially if taking other medications or if pregnant or breastfeeding. Baicalin should be taken with a glass of water, preferably with a meal to aid absorption, and can be divided into 1-2 doses throughout the day. Continuous use should be reassessed every 3-6 months with healthcare guidance.

TYPICAL STARTING DOSE

50 mg

Description

Baicalin is a natural compound found in certain plants like the Chinese skullcap. It has several health benefits like reducing inflammation, battling bacteria, and protecting the brain. Research also suggests it could be useful in treatments for heart and liver conditions.

How it helps

In a placebo-controlled trial of 374 patients with coronary artery disease and rheumatoid arthritis, supplementation with baicalin (500 mg/day) for 12 weeks lowered LDL cholesterol [\[R\]](#).

Baicalin may help by inhibiting cholesterol synthesis in the body and promoting its removal.

199



Ecklonia Cava

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a supplement of Ecklonia Cava extract, typically available in capsule format, with a standard dose ranging between 100-400 mg daily. It can be taken with or without food, but consistency in timing can help maintain stable levels in your body. It's generally recommended to start with the lower end of the dosing spectrum and adjust based on personal tolerance and efficacy. Continue taking daily for at least a few weeks to gauge the full effect.

TYPICAL STARTING DOSE

100 mg

Description

Ecklonia cava is a type of brown seaweed often used in supplements for its potential antioxidant and anti-inflammatory properties, which may support cardiovascular health and overall well-being.

Ecklonia cava, also known as “sea trumpet”, is a brown seaweed that grows along the coasts of Korea and Japan. People use it as a food, fertilizer, and supplement [\[R\]](#), [\[R\]](#).

Ecklonia cava is traditionally used to fight [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Urinary diseases
- Hemorrhoids
- Constipation

How it helps

A 12-week oral supplementation of Ecklonia cava polyphenols in overweight Korean individuals significantly decreased BMI, body fat ratio, waist circumference, waist/hip ratio, total cholesterol, low-density lipoprotein (LDL) cholesterol, total cholesterol/high-density lipoprotein (HDL) cholesterol, and atherogenic index. The high-dose group also showed significant decreases in serum glucose and systolic blood pressure [\[R\]](#).

200

Avoid Mercury Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Limit consumption of large fish such as shark, swordfish, king mackerel, and tilefish, which are known to have higher mercury levels. Opt for smaller fish like salmon, shrimp, pollock, and catfish, and limit seafood intake to 8-12 ounces (two to three servings) per week. Check and follow local advisories regarding the safety of fish caught by family and friends in your local lakes, rivers, and coastal areas.

Description

Avoiding exposure to mercury, a toxic heavy metal found in certain seafood and environmental sources, is essential to prevent adverse health effects, including neurological damage and developmental issues.

Mercury and other [heavy metals](#) are found in the soil, water, food, and some commonly-used household products. They adversely affect the environment and living organisms. According to some studies, mercury is considered **the most toxic heavy metal** in the environment [\[R\]](#), [\[R\]](#).

A major source of mercury exposure is seafood, especially large fish such as [\[R\]](#):

- Tuna
- Shark
- Swordfish

How it helps

A representative sample of 2591 Korean adults from the Korean National Environmental Health Survey; After adjusting for demographic and socioeconomic factors, the proportional changes in serum lipid levels were significantly associated with increases in BPb, BHg, and UHg levels. Overall, BPb, BHg, and Uhg levels positively correlated with dyslipidemia [\[R\]](#).

MIXED: This study analyzed the mercury exposure and cholesterol profiles in 3951 adults based on fish consumption frequency. Blood Hg levels were higher in groups with high cholesterol, low HDL-C, and high triglycerides. Blood Hg levels increased with more frequent fish consumption, but cholesterol profiles didn't consistently follow this trend. Elevated blood Hg levels were linked to higher total cholesterol and LDL-C levels, but this effect waned in groups with frequent fish consumption [\[R\]](#).

201

Eccentric Exercise

IMPACT

1 / 5

EVIDENCE

1 / 5

Description

Eccentric exercise is a type of exercise where the muscle lengthens as it contracts. It has been shown to have a number of health benefits, including increased muscle strength, improved bone density, and reduced risk of injury.

How it helps

Practicing eccentric exercise (30 min/day) for 8 weeks improved blood lipid profile, insulin resistance, and energy expenditure in a non-placebo-controlled trial of 20 women [\[R\]](#).

Eccentric HIIT practiced for 2 weeks lowered total and LDL cholesterol better than concentric HIIT in a non-placebo-controlled trial of 20 men [\[R\]](#).

202



Coconut

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate coconut into your diet by adding 1-2 tablespoons of unsweetened coconut flakes to your breakfast cereal or smoothie daily. You can also replace cooking oils with virgin coconut oil when sautéing or baking, not exceeding 2 teaspoons per day to maintain a balanced intake of dietary fats.

Description

Coconut is a versatile fruit with potential health benefits, including providing healthy fats and dietary fiber. It can support satiety, digestion, and overall nutritional wellness when incorporated into a balanced diet.

How it helps

Different test foods were evaluated, including corn flakes, oat bran flakes, and corn flakes with 15% and 25% dietary fiber from coconut flakes. Results showed that all test foods, except cornflakes, significantly reduced serum total and LDL cholesterol levels. Additionally, serum triglycerides were reduced for all test foods, particularly in individuals with moderately raised cholesterol levels. In conclusion, both 15% and 25% coconut flakes effectively lowered cholesterol and triglycerides in these individuals [\[R\]](#).

203



Bee Pollen and Royal Jelly

IMPACT

1 / 5

EVIDENCE

0 / 5

How to implement

Take a combined supplement of bee pollen and royal jelly daily, starting with a quarter teaspoon and gradually increasing up to 1-2 teaspoons per day, as per tolerance. It's best consumed in the morning with food to improve absorption and minimize potential stomach discomfort. Continue this regimen daily for at least two months to observe benefits.

Description

Bee pollen is a natural product collected by bees and is rich in vitamins, minerals, and antioxidants. It is believed to have various health benefits, including potential anti-inflammatory and immune-boosting properties.

Royal jelly is a nutrient-rich substance secreted by worker bees to feed bee larvae and the queen bee. Royal jelly contains protein B-vitamins, calcium and iron. It is taken as a supplement for it's potential energy-boosting and immune-supporting properties.

How it helps

A supplement with fermented pollen and royal jelly (Melbrosia, 1-2 capsules/day for 12 weeks) reduced LDL cholesterol in an uncontrolled trial of 60 postmenopausal women [\[R\]](#).

204



Tamarind

IMPACT

0 / 5

EVIDENCE

1 / 5

How to implement

Take 500 mg of tamarind extract as a supplement daily, with or without food. This can be continued for up to 12 weeks, after which you should consult your healthcare provider for further guidance.

TYPICAL STARTING DOSE

500 mg

Description

Tamarind is a tropical fruit native to Africa but is now grown in many tropical regions. Tamarind is rich in nutrients like vitamins C and B-vitamins, minerals such as potassium and magnesium, and dietary fiber. The main compounds in tamarind include tartaric acid and various antioxidants, which contribute to its distinctive taste and potential health benefits.

How it helps

A clinical trial found that dried and pulverized pulp of T. indica fruits (15 mg/kg body weight) reduced total cholesterol level, LDL-cholesterol level, and diastolic pressure without affecting body weight and systolic blood pressure [\[R\]](#).

205



Avoid Alanine Supplements

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Do not purchase or consume supplements that list alanine, specifically as an ingredient. This includes not using powders, pills, or any form of supplement designed for direct consumption that contains alanine.

Description

L-alanine is a non-essential amino acid that plays a crucial role in the body's energy metabolism, particularly during periods of intense exercise. It can help support endurance and muscle recovery by providing a source of energy and aiding in the removal of harmful metabolic byproducts like lactic acid.

How it helps

Genetically predicted plasma alanine is not linked to coronary artery disease but has been associated with a 35% higher risk of diabetes, elevated glucose, LDL-cholesterol, triglycerides, total cholesterol, apolipoprotein B, and blood pressure, particularly in females for LDL-cholesterol and triglycerides [\[R\]](#).

206



Morning Sunlight Exposure

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Expose yourself to natural sunlight for at least 20 to 30 minutes immediately after waking up. Try to do this consistently every day to help regulate your body's internal clock.

TYPICAL STARTING DOSE

30 minutes

Description

Exposure to natural morning light can help regulate circadian rhythms, improve mood, and enhance wakefulness, as it signals the body to produce serotonin, a hormone associated with well-being and alertness.

How it helps

In a systematic review of 39 observational studies with 377,797 subjects, evening-oriented individuals had higher blood glucose, glycated hemoglobin, LDL cholesterol, and triglycerides. They also had an increased risk of diabetes, cancer, and depression [\[R\]](#).

A meta-analysis of 27 studies found that individuals with evening chronotype had higher BMI, fasting blood glucose, and total cholesterol levels, as well as lower HDL-C levels compared to morning chronotype individuals [\[R\]](#).

207



Hydroxytyrosol

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a hydroxytyrosol supplement at a dose of 5 to 10 mg per day, with or without food. This supplement should be taken daily for at least 8 to 12 weeks to observe potential health benefits.

TYPICAL STARTING DOSE

5 mg

Description

Hydroxytyrosol is a natural phenolic compound found in extra virgin olive oil. It is known for its antioxidant properties and may contribute to the health benefits associated with the Mediterranean diet.

How it helps

In a 20-week placebo-controlled trial with 84 subjects, supplementation of hydroxytyrosol (9.9 mg) and punicalagin (195 mg) significantly reduced LDL cholesterol, oxidized LDL, triglycerides, systolic and diastolic blood pressure, increased HDL cholesterol in all, and FMD in those with endothelial dysfunction. In an 11-day placebo-controlled trial with 36 participants, hydroxytyrosol supplementation (50-100 mg/day) lowered triglyceride levels by up to 21.64% [\[R, R, R\]](#).

208



Punicalagin

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take punicalagin as a supplement in the form of capsules or powder. Typically, the dosage ranges from 300 mg to 600 mg daily, divided into two doses taken with meals. Continue this regimen daily for at least one month to assess its effects.

TYPICAL STARTING DOSE

300 mg

Description

Punicalagin is a natural compound found in pomegranates and is known for its potent antioxidant properties. It is one of the primary compounds responsible for pomegranate's health benefits. Consuming punicalagin-rich foods or supplements may help protect cells from oxidative stress and inflammation.

How it helps

In a 20-week placebo-controlled trial with 84 subjects, supplementation of hydroxytyrosol (9.9 mg) and punicalagin (195 mg) significantly reduced LDL cholesterol, oxidized LDL, triglycerides, systolic and diastolic blood pressure, increased HDL cholesterol in all, and FMD in those with endothelial dysfunction. In an 11-day placebo-controlled trial with 36 participants, hydroxytyrosol supplementation (50-100 mg/day) lowered triglyceride levels by up to 21.64% [\[R\]](#), [\[R\]](#), [\[R\]](#).

This study evaluated the effect of an oral supplement containing HT and PC (SAx) on dyslipidemia in an adult population. A randomized, double-blind, controlled, crossover trial was conducted over a 20-week period. SAx significantly reduced TG and LDL and increased HDL [\[R\]](#).

In a 20-week randomized, double-blinded, placebo-controlled, crossover trial, a supplement (SAx) containing 9.9 mg of HT and 195 mg of PC showed significant improvements in endothelial function, as measured by flow-mediated dilatation (FMD), compared to placebo. SAx also reduced oxLDL levels in subjects with higher baseline levels, and decreased blood pressure in individuals with prehypertension and hypertension [\[R\]](#).

A study was divided into three groups receiving different doses of SOFE (olive fruit extract) or a placebo. Group 2 (500 mg SOFE) showed the most significant reduction in CAVI scores and increased energy intensity. Triglyceride levels notably dropped in Group 2 [\[R\]](#).

209



Dietary Iron

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate iron-rich foods into your daily meals, such as red meat, chicken, turkey, fish, beans, lentils, tofu, cooked spinach, and fortified cereals. Aim for at least 18 mg of iron per day for adult women and 8 mg per day for adult men. It's also beneficial to pair these foods with vitamin C-rich foods like oranges, strawberries, or bell peppers to enhance iron absorption.

Description

[Iron](#) (Fe) is an essential mineral. It helps make [hemoglobin](#), a protein that carries oxygen to cells. In this way, iron **increases energy** and supports **brain and immune system function** [\[R, R, R\]](#).

Foods rich in iron include [\[R\]](#):

- Oysters
- White beans
- Beef
- Chocolate
- Spinach
- Fortified cereals

Women should be getting **8-18 mg** of iron per day, while **men** should be getting **8 mg** [\[R\]](#).

Groups at risk of iron deficiency include [\[R\]](#):

- Menstruating women
- Children
- Vegetarians
- Routine blood donors

How it helps

Genetically higher levels of iron may be associated with lower total cholesterol and LDL cholesterol levels [\[R, R\]](#).

Dietary iron may reduce LDL cholesterol levels in several ways:

- Heme iron: This type of iron, found in red meat, can bind to cholesterol in the gut, preventing it from being absorbed into the bloodstream.
- Increased bile acid production: Iron plays a role in the production of bile acids, which help break down cholesterol in the gut. When you have sufficient iron, you produce more bile acids, leading to increased cholesterol removal from the body.
- Improved gut microbiota: Iron is essential for the growth and function of gut bacteria. Certain gut bacteria can produce short-chain fatty acids that lower cholesterol levels by reducing its absorption and increasing its breakdown.

Please note: *Increased iron intake from meat is linked to higher odds of diabetes and heart disease. Try to find a balance between plant and animal iron sources* [\[R, R, R, R\]](#).

Next Steps

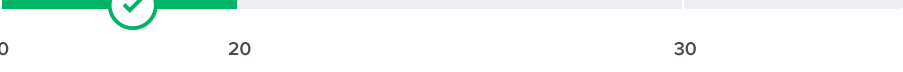
Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

	T4 Free (FT4)	1.26 ng/dL		9 Nov 2025
	TSH	2.76 mIU/mL		9 Nov 2025
	VLDL Cholesterol	11 mg/dL		9 Nov 2025
	DHEA Sulfate	303 mcg/dL		9 Nov 2025
	Non-HDL Cholesterol	140 mg/dL		9 Nov 2025
	LDL Cholesterol	103 mg/dL		9 Nov 2025
	Testosterone, Total	1500 ng/dL		9 Nov 2025
	Cholesterol, Total	182 mg/dL		9 Nov 2025