



ApoB

DNA Health Report

REPORT CATEGORY —



HEART & BLOOD
VESSELS

Sample Client

Report date: 03 September 2025

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Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

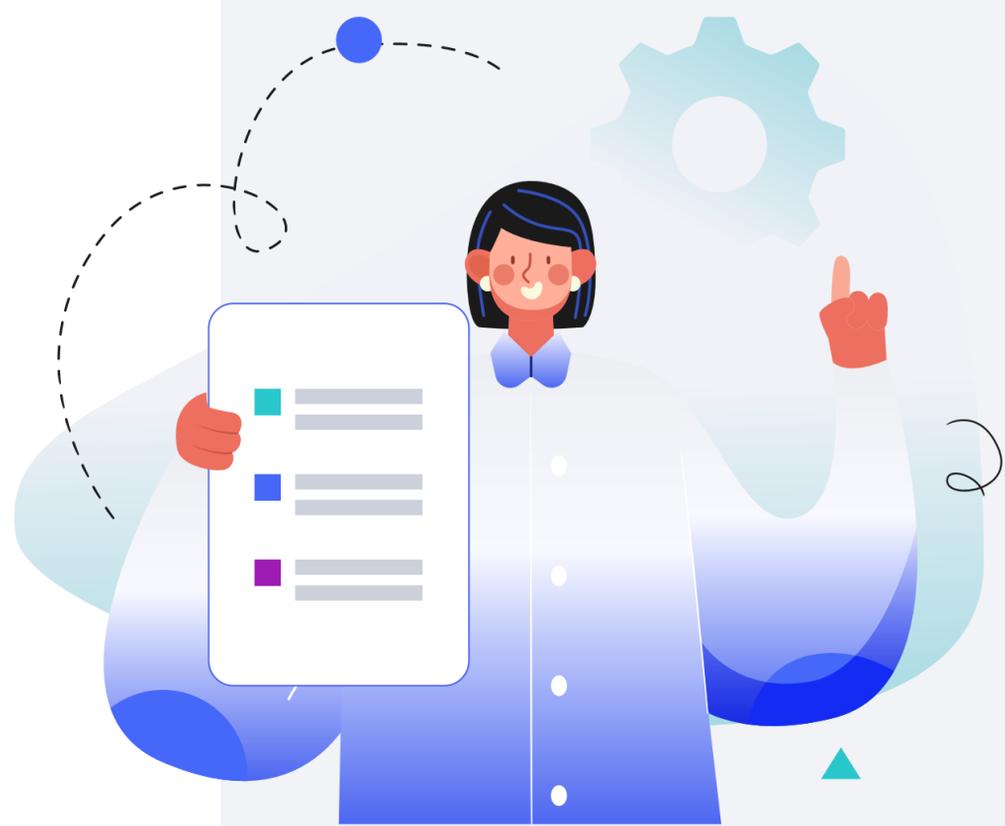
5ft 9" 175.0cm

WEIGHT

165lb 75.0kg

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.



Introduction

[Apolipoprotein B](#) (ApoB) is a large protein that helps build three major lipoproteins. They are collectively called “bad cholesterol” [\[R\]](#):

- Low-density lipoprotein (LDL)
- Very-low-density lipoprotein (VLDL)
- Intermediate-density lipoprotein (IDL)

Hence, ApoB is a measure of the amount of "bad cholesterol" in the blood [\[R\]](#).

“Bad cholesterol” contributes to heart disease, so ApoB levels may help estimate heart disease risk [\[R, R, R, R, R, R, R, R, R\]](#).

Low ApoB is associated with a lower risk of heart disease [\[R, R, R, R, R\]](#).

However, ApoB may help defend the body against bad bacteria, hence lower ApoB levels may increase the risk of infections [\[R, R\]](#).

High ApoB is associated with an increased risk of [\[R, R, R, R, R\]](#):

- Heart disease
- Diabetes
- Cancer

Research also suggests a role of genetically higher ApoB in the development of:

- Heart disease [\[R, R\]](#)
- [Alzheimer's disease](#) [\[R\]](#)

In contrast, genetically higher ApoB levels may be linked to a lower risk of developing:

- Arthritis [\[R\]](#)
- [Macular degeneration](#) [\[R\]](#)

Factors Influencing ApoB Levels

Key takeaways:

- ApoB is a protein that forms part of "bad cholesterol".
- High ApoB levels are linked to heart disease.
- Genetically high ApoB may be involved in the development of heart disease and Alzheimer's disease.
- Up to **70%** of differences in people's ApoB levels may be due to **genetics**.
- Besides genetics, different lifestyle factors, health conditions, and drugs can affect ApoB levels.

[Apolipoprotein B](#) (ApoB) is a large protein that helps build three major lipoproteins, collectively called "bad cholesterol" [\[R\]](#).

Up to **70%** of differences in people's ApoB levels may be due to **genetics**. Involved genes may influence ApoB production [\[R, R, R\]](#).

Some factors that may lead to **high ApoB** include:

- High-sugar foods [\[R, R\]](#)
- Diets high in saturated fats and cholesterol [\[R, R, R\]](#)
- Smoking [\[R, R, R\]](#)
- Drinking coffee (including decaf) [\[R, R, R\]](#)
- Sleep deprivation [\[R, R\]](#)
- Some drugs (e.g., steroids, chemotherapy) [\[R, R, R, R\]](#)

ApoB levels may increase during pregnancy and menopause. Some health conditions may also lead to high ApoB levels, including [\[R, R, R\]](#):

- Obesity [\[R, R, R\]](#)
- Underactive thyroid [\[R, R, R\]](#)
- Diabetes [\[R, R, R\]](#)
- Liver and kidney disease [\[R, R, R, R, R\]](#)
- Rare genetic disorders [\[R, R, R, R\]](#)



HIGHER LEVELS

Predisposed to higher ApoB levels based on 6,389 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
APOB	rs550619	AA
/	rs12713559	GG
APOC4	rs140526515	AA
NECTIN2	rs138914864	CC
/	rs151135411	GG
APOE	rs769449	GG
NECTIN2	rs117310449	CC
CLPTM1	rs490243	CC
NECTIN2	rs144261139	CC
NECTIN2	rs76366838	GG
APOE	rs4420638	AA
CLPTM1	rs12691088	GG
TOMM40	rs394819	GG
NECTIN2	rs34095326	GG
NECTIN2	rs41289512	CC
TOMM40	rs157587	AA
NECTIN2	rs138607350	TT
APOC1	rs389261	GG
PVR	rs35959395	GG
PVR	rs139267469	CC

Low ApoB levels may result from:

- Overactive thyroid [[R](#), [R](#), [R](#)]
- Liver disease [[R](#), [R](#), [R](#), [R](#)]
- Some drugs (e.g., cholesterol-lowering drugs) [[R](#), [R](#), [R](#), [R](#), [R](#), [R](#)]
- Rare genetic disorders [[R](#), [R](#), [R](#), [R](#), [R](#)]

Keep in mind that this report is not about the rare genetic disorders mentioned above. They are very rare and usually diagnosed in infancy.

GENE	SNP	GENOTYPE
APOC2	rs10424663	GG
APOC1	rs60049679	GG
BCL3	rs114036675	GG
LPA	rs3798220	TT
SNX8	rs144787122	AA
SLC22A3	rs3918291	TT
APOE	rs157599	AA
MAFB	rs2207132	GG
LPA	rs74617384	AA
TRAPPC6A	rs142501705	AA
NECTIN2	rs28399637	GG
A1CF	rs41274050	CC
CLPTM1	rs79429216	GG
APOA5	rs3135506	GG
TDRD15	rs113588790	CC
ABCA5	rs75016991	CC
SLC22A1	rs2282143	CC
APOA4	rs12721041	CC
TDRD15	rs116157399	GG
TDRD15	rs111548358	TT

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		2	
Choose Healthy Fats		Whole-Food Plant-Based Diet	
3		4	2 tbsp
Eat Fiber-Rich Foods		Flaxseed	
5		6	600 mg
Nordic Diet		Pantethine	
7	500 mg	8	20 mg
Red Yeast Rice		Niacin Supplements	
9	30 minutes	10	10 billion
Walking		12	
11	1000 iu	Mediterranean Diet	
Maintain Optimal Vitamin D Levels		13	3 oz
13		Nuts	
15		14	
Oats		Avoid Secondhand Smoke	

1



Choose Healthy Fats

IMPACT

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EVIDENCE

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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

Consuming unsaturated fats is associated with lower ApoB levels [\[R\]](#).

In line with this, replacing saturated fats with healthier alternatives, such as unsaturated fats may lower ApoB levels. Studied oils rich in unsaturated fats include [\[R, R, R\]](#):

- Soybean oil [\[R\]](#)
- Canola oil [\[R, R\]](#)

However, one study found **no effects** of canola oil on ApoB levels [\[R\]](#).

The [Mediterranean diet](#) is an example of a diet rich in unsaturated fats that may help reduce ApoB levels. Following a low-fat diet (for 3-6 months) may also help [\[R, R, R\]](#).



Whole-Food Plant-Based Diet

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

To implement a plant-based diet, fill your meals with fruits, vegetables, legumes, seeds, and whole grains. Aim for at least 5 servings of fruits and vegetables per day, include legumes in your meals several times a week, and choose whole grains over refined grains. Adjust your diet gradually over a few weeks to avoid digestive discomfort.

Description

A plant-based diet primarily consists of foods derived from plants, such as fruits, vegetables, whole grains, nuts, and seeds, while minimizing or excluding animal products. This dietary approach is associated with numerous health benefits, including reduced risk of chronic diseases like heart disease, diabetes, and certain cancers, as well as improved weight management and overall well-being due to its emphasis on nutrient-dense, fiber-rich foods.

A plant-based diet is not necessarily vegetarian or vegan. It focuses on eating foods mainly of plant origin [\[R\]](#).

It includes a variety of fruits and vegetables, grains, dairy, high-protein foods, and oils [\[R\]](#).

Following a plant-based diet may support [\[R, R, R, R\]](#):

- Heart health
- Blood sugar control
- Kidney health

How it helps

People who consume little animal protein (e.g., meat, fish, or poultry) or none at all tend to have lower ApoB levels [\[R\]](#).

In line with this, eating more plant-based foods may help reduce ApoB levels. Studied plant-based diets include [\[R\]](#):

- The Portfolio diet (for 1-6 months) [\[R\]](#)
- The Eco-Atkins diet (for 2-6 months) [\[R, R\]](#)

3



Eat Fiber-Rich Foods

IMPACT

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EVIDENCE

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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

A high intake of dietary fiber is associated with lower ApoB levels. Fiber may help by reducing cholesterol absorption and increasing its clearance [\[R, R\]](#).

Studied dietary fiber sources include:

- Oats [\[R\]](#)
- Whole grain rye [\[R\]](#)

Some supplements may also help, including:

- Beta-glucan (3.5 g/day for 5 weeks) [\[R\]](#)
- Psyllium fiber (6-15 g/day for 6-16 weeks) [\[R\]](#)

4  **Flaxseed**

IMPACT  3 / 5

EVIDENCE  3 / 5

How to implement

Consume 2 tablespoons of ground flaxseed daily. You can add it to your breakfast cereal, smoothies, or salads.

TYPICAL STARTING DOSE

2 tbsp

Description

Flaxseed is a nutrient-dense food that's high in fiber and omega-3 fatty acids. It may contribute to heart health, promote digestive regularity, and help manage cholesterol levels when included in a balanced diet.

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

Flaxseed is rich in many compounds, including [\[R\]](#):

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

How it helps

Flaxseed (13-30 g/day for 2-13 weeks) may lower ApoB by reducing cholesterol absorption in the gut [\[R\]](#).

5  **Nordic Diet**

IMPACT
 3 / 5

EVIDENCE
 3 / 5

How to implement

Follow a diet that emphasizes whole grains (such as oats, barley, and rye), fatty fish (like salmon, mackerel, and herring), lean meats, legumes, fruits (especially berries), vegetables (particularly root vegetables and cabbages), low-fat dairy products, and canola oil. Aim to incorporate these foods into your daily meals consistently. Avoid processed and sugary foods.

Description

The Nordic diet is a dietary pattern characterized by foods traditionally consumed in Nordic countries, such as Denmark, Norway, and Sweden. It emphasizes whole grains, fatty fish, vegetables, and berries, and is associated with potential health benefits, including reduced risk of chronic diseases and improved cardiovascular health.

The Nordic diet is based on the traditional cuisine of the Nordic countries. It's rich in foods like [\[R\]](#):

- Whole-grain cereals (especially rye, oats, and barley)
- Fruits (e.g., berries, apples, and pears)
- Vegetables (especially root and cruciferous vegetables)
- Low-fat dairy products
- Fish and shellfish
- Legumes
- Nuts

The Nordic diet may help with [\[R, R\]](#):

- Obesity
- Diabetes
- High blood pressure

How it helps

Following the nordic diet (for 3-12 months) may lower ApoB levels by increasing cholesterol clearance [\[R, R\]](#).

6



Pantethine

IMPACT


EVIDENCE


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

Pantethine can help reduce levels of Apolipoprotein B (ApoB), which is linked to harmful types of cholesterol and a higher risk of heart disease. Lowering ApoB levels can therefore decrease the risk of heart conditions and improve overall cardiovascular health.

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 participant 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].

7



Red Yeast Rice

IMPACT

3 / 5

EVIDENCE

3 / 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 (200-2,400 mg/day for 4-12 weeks) may lower ApoB levels. However, one study found no effect of red yeast rice on ApoB [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Red yeast rice may help by reducing ApoB production [\[R\]](#).

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

8  **Niacin Supplements**

IMPACT
●●●●○ 3 / 5

EVIDENCE
●●●●○ 3 / 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 (1-3 g/day for 3-12 months) may decrease ApoB levels by increasing ApoB clearance [\[R, R, R, R\]](#).

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

9  **Walking**

IMPACT
●●●○ 3 / 5

EVIDENCE
●●○ 2 / 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

People who exercise and are fitter tend to have lower ApoB levels [[R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#)].

Increasing physical activity, even by standing or walking instead of sitting may reduce ApoB levels [[R](#), [R](#)].

From brisk walking to high-intensity training, **all types of exercise (for 2-9 months) may lower ApoB levels**. Combining aerobic and strength training may offer a greater benefit than aerobic exercise alone [[R](#), [R](#), [R](#)].

10  **Probiotics**

IMPACT  **EVIDENCE** 

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 may help lower ApoB levels by reducing how much cholesterol is made and absorbed [\[R, R, R, R\]](#).

Probiotic products that may help include fermented milk products like [\[R, R\]](#):

- Yogurt with [L. reuteri](#) ($2,3 \times 10^9$ CFU/day for 6 weeks)
- [Kefir](#) (180 mL/day for 12 weeks)

11



Maintain Optimal Vitamin D Levels

IMPACT

2 / 5

EVIDENCE

3 / 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

Low vitamin D is associated with higher ApoB levels. However, one study did not find an association [\[R, R, R, R, R, R, R\]](#).

In line with this, vitamin D may help reduce ApoB levels, especially in people with vitamin D deficiency. One study did not find this benefit [\[R, R, R\]](#).

Please note: *Experts recommend getting 600-800 IU of vitamin D per day. Medical bodies recommend against taking more than 4,000 IU per day* [\[R\]](#).

12  **Mediterranean Diet**

IMPACT  **EVIDENCE** 

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

Following the Mediterranean diet (for 4-12 weeks) may lower ApoB levels [\[R, R, R, R, R\]](#).

Adding olive oil (4-10 g/day for 2-12 weeks), one of the important ingredients of the Mediterranean diet, may also help [\[R, R, R\]](#).

13  **Nuts**

IMPACT
●●○○○ 2 / 5

EVIDENCE
●●●○○ 3 / 5

How to implement

Incorporate a variety of nuts such as almonds, walnuts, and cashews into your daily diet, aiming for a serving size of about 1 ounce (28 grams), which is roughly a handful, every day.

TYPICAL STARTING DOSE

3 oz

Description

Nuts are nutrient-dense foods rich in healthy fats, protein, fiber, vitamins, and minerals. They are associated with numerous health benefits, including heart health, weight management, and reduced risk of chronic diseases when consumed as part of a balanced diet.

Nuts are a healthy source of both energy and nutrients. They are rich in [\[R, R, R, R\]](#):

- Protein
- Dietary fiber
- Vitamins ([folate](#), [niacin](#), [vitamin E](#), [vitamin B6](#))
- Minerals ([calcium](#), [magnesium](#), [potassium](#))
- Healthy fats
- Plant sterols

Most of the energy in nuts comes from healthy *unsaturated fats*. Some nuts, like walnuts and pine nuts, are very rich in *polyunsaturated fats* (PUFAs). These are considered some of the healthiest fats we can eat [\[R\]](#).

People who eat a lot of nuts may be less likely to develop [\[R\]](#):

- High cholesterol
- High blood pressure
- High blood sugar

How it helps

Consuming nuts may lower ApoB levels. Plant sterols in nuts may help by reducing ApoB production [\[R, R\]](#).

Several types of nuts may be useful, such as:

- Walnuts (15-100 g/day for 1-12 months) [\[R\]](#)
- Hazelnuts (30-40 g/day for 1-2 months) [\[R, R\]](#)
- Pecan nuts (70 g/day for 1-2 months) [\[R, R\]](#)
- Almonds (25-100 g/day for 1-4 months) [\[R\]](#)

However, one study found no effects of almonds on ApoB [\[R\]](#).

14



Avoid Secondhand Smoke

IMPACT

 2 / 5

EVIDENCE

 2 / 5

How to implement

Implementing a smoke-free lifestyle involves communicating your needs to family, friends, and coworkers, requesting they respect your choice by smoking away from you. At home, establish strict no-smoking policies indoors. When out, choose smoke-free venues and accommodations. Advocate for smoke-free environments in your community and support legislation that promotes public health by reducing exposure to secondhand smoke. Utilize air purifiers at home to reduce any residual particles.

Description

Avoiding secondhand smoke is crucial for maintaining good health. Exposure to secondhand smoke can lead to respiratory problems, cardiovascular disease, and an increased risk of lung cancer, even in non-smokers. Protecting oneself from secondhand smoke involves staying away from smoking areas, ensuring smoke-free environments at home and work, and advocating for smoke-free policies in public spaces.

How it helps

Smokers tend to have higher ApoB levels than non-smokers, especially if they [\[R, R, R, R, R, R, R, R, R, R, R\]](#):

- Are overweight
- Smoke over 20 cigarettes/day
- Have smoked for over 5 years

Secondhand smoke is also associated with higher ApoB levels [\[R\]](#).

15  **Oats**

IMPACT
 1 / 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

Eating oats can lower ApoB levels because they contain soluble fiber, which binds to cholesterol in the gut and stops it from entering the bloodstream. Reduced cholesterol means fewer ApoB particles, improving your condition.

A meta-analysis of 59 trials concluded that oat supplementation interventions lower BMI (by 0.13 kg/m²), weight (by 0.94 kg), waist circumference (by 1.06 cm), and apoB levels [\[R\]](#).