

Gallstones

DNA Health Report

REPORT CATEGORY —



Sample Client

Report date: 15 January 2026

Powered by

 omicse Edge

Table of Contents

03 How this works

- 04 Impact
- 05 Evidence
- 06 Some things to keep in mind

07 Introduction

08 Your genetics

10 Your recommendations

30 Next Steps

- 30 Your Lab Results

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

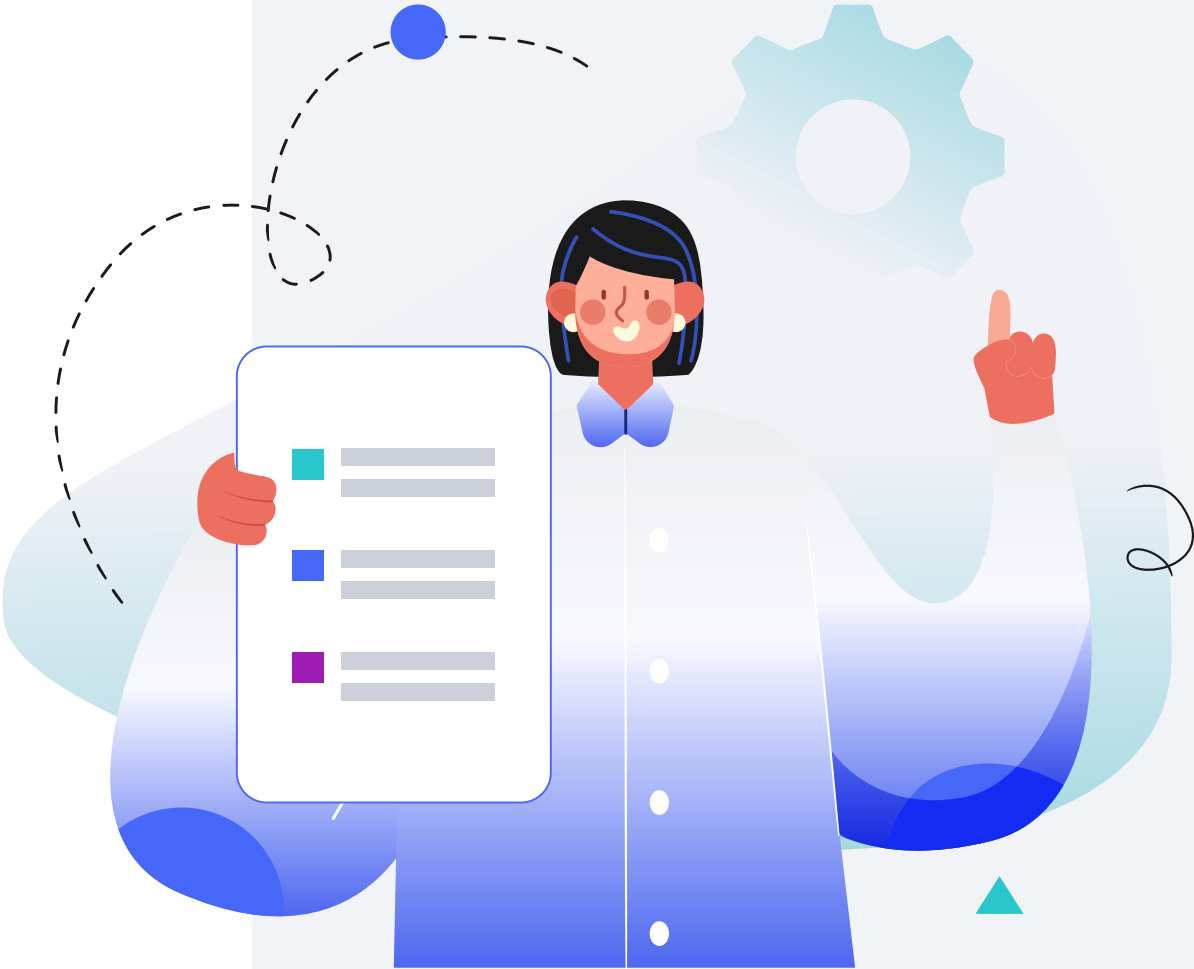
Male

HEIGHT

5ft 5" 165cm

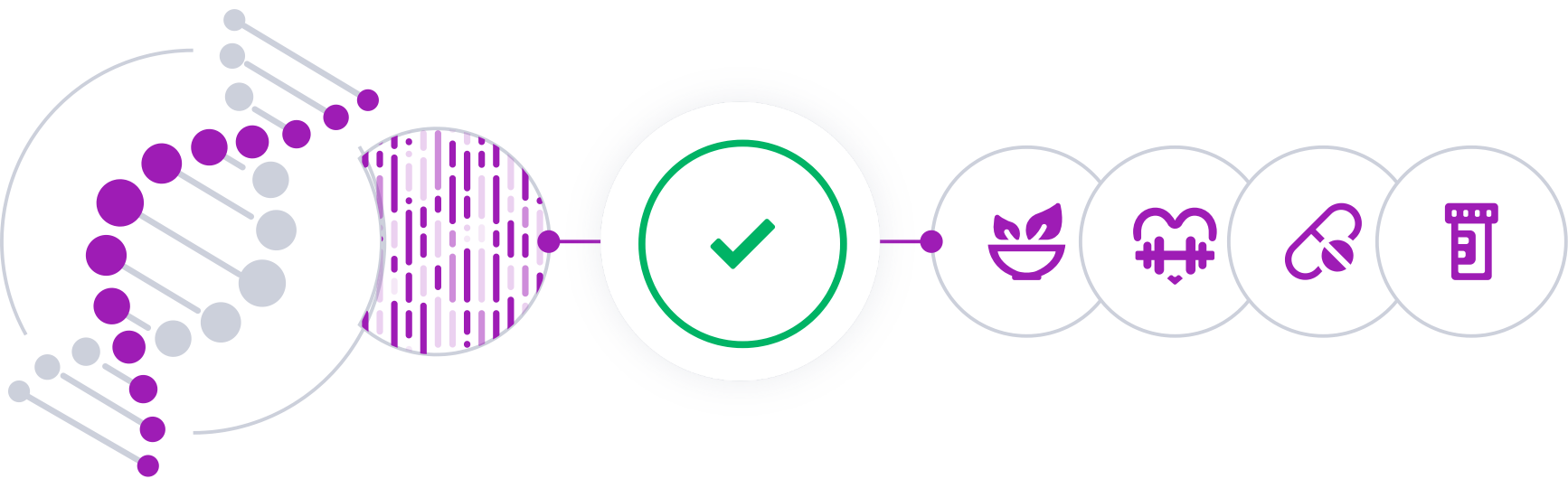
WEIGHT

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

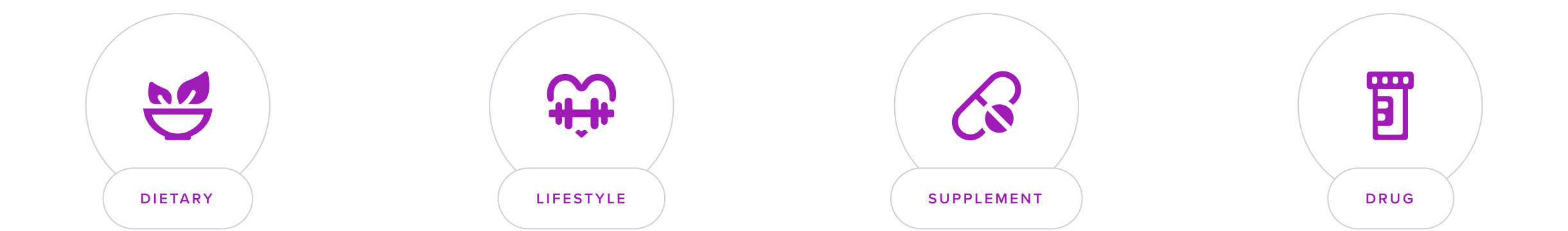
You have 2 risk alleles

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

There’s a tiny pear-shaped organ which lives just under your liver. It doesn’t get much attention, but it’s pretty useful. This organ is the **gallbladder**.

The gallbladder is filled with **bile**, which helps you digest fats. When you eat high-fat foods like pizza or fatty fish, **bile empties into the small intestine to help with digestion**.

Unfortunately, the bile in your gallbladder can sometimes form **hard deposits** called **gallstones**.

The majority of those who develop these troublesome nuggets of bile will only end up with around 2-20 stones. Some people may actually have them and not even realize. But that’s not always the case! According to Guinness World Records, one person back in 1987 had 23,530 [\[R\]](#)!

Nobody wants to be a walking bag of stones. But there are some risk factors which may increase the chance of developing gallstones.

These include being overweight, eating a diet rich in bad fats, and not exercising regularly [\[R\]](#), [\[R\]](#).

For some people, these risk factors may be even more pressing because of their genetics. Take being overweight, for example. Being overweight is linked to an increased risk of gallstones in people who carry a certain variant of the [CYP17A1](#) gene. These individuals may want to take extra care to manage their weight [\[R\]](#).

Being overweight is just one risk factor. If you really want to cover all avenues when it comes to lowering the risk of gallstones, you could benefit from understanding your genetics.

This report focuses on the genetics of gallstones. Read more to find out:

- **How your genetics play a role in gallstone development**
- **Your genetic risk score based on 44 genetic variants**
- **Personalized recommendations based on your genetics**

About Gallstones

Key Takeaways:

- In the United States, up to **8%** of men and **17%** of women have gallstones.
- Risk factors include pregnancy, obesity, rapid weight loss, excessive fasting, a diet heavy in bad fats, and lack of exercise.
- Up to **30%** of differences in people's chances of developing gallstones may be due to genetics. If you are at high genetic risk, you may benefit by addressing factors like diet and exercise.
- Environmental and lifestyle factors may play a bigger role, so make sure to address them.
- Click the **next steps** tab for relevant labs and lifestyle factors.

The gallbladder is a small, pear-shaped organ under your liver. Together with the pancreas and ducts, they make up *the biliary system*.

As part of this system, the liver makes a substance called bile. Bile works together with pancreatic enzymes to digest fats in the gut. The gallbladder stores bile until the gut needs it [\[R\]](#), [\[R\]](#).

Bile isn't just for digesting fat. It also helps your body remove cholesterol and even helps protect against infection [\[R\]](#).

Sometimes, the contents of bile can build up and harden in the gallbladder, forming gallstones. These stones can be as small as a grain of sand or as big as a golf ball [\[R\]](#), [\[R\]](#).

There are two major types of gallstones [\[R\]](#):

- **Cholesterol stones.** As their name suggests, these stones are made of hardened cholesterol.
- **Pigment stones.** These stones are made of bilirubin, a yellow pigment found in bile and blood.

In the United States, **up to 8% of men and 17% of women have gallstones**. Besides gender, other risk factors include



TYPICAL LIKELIHOOD

Typical likelihood of gallstones based on 43 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SULT2A1	rs62129966	CC
ABCB4	rs4148805	GG
TTC39B	rs686030	AA
LANCL1	rs55932961	GG
ATP8B1	rs369298568	TT
SLC10A2	rs16961277	AA
PRELID1	rs351864	CC
ABO	rs600038	CC
LRBA	rs2290846	GA
BUD23	rs7786376	GG
TMEM171	rs10462337	CC
WASHC2C	rs11239549	AG
ADSL	rs4821943	GG
CBLL1	rs714583	AT
FUT3	rs708686	CT
GCKR	rs1260326	TC
SH3BP4	rs72987446	CT
PNKD	rs2085485	AG
CPLANE2	rs1497406	GA
ZNF438	rs756916840	CC
ABCG5	rs75331444	GG
VPS13B	rs76734776	TT
SERPINA1	rs28929474	CC
HNF4A	rs1800961	CC

[R, R]:

- Pregnancy
- Obesity
- Rapid weight loss
- Fasting for long periods
- Gut surgeries
- Inflammatory bowel disease (IBD)

Oftentimes, people with gallstones have no signs or symptoms. But in some cases, gallstones can cause serious damage. They can block the ducts that connect the biliary system to the gut. Blocked ducts can lead to inflammation in the gallbladder or pancreas. They can also cause a **gallbladder attack** [R, R, R, R, R, R].

Experts recommend seeing a doctor if you have any signs and symptoms of a gallbladder attack, including [R]:

- Gut pain lasting several hours
- Nausea and vomiting
- Fever or chills
- Yellowish color in the skin or whites of the eyes
- Dark urine or light-colored stool

Once gallstones have been diagnosed, your doctor will develop a treatment plan. The most common treatment for symptomatic gallstones is surgery to remove the gallbladder [R].

Up to 30% of differences in people's chances of developing gallstones may be attributed to genetics.

Genes involved in gallstone formation may influence [R, R, R, R, R]:

- Cholesterol metabolism ([ABCG8](#), [GCKR](#), [CYP7A1](#))
- Bile metabolism ([SULT2A1](#), [SLC10A2](#))
- Liver function ([TM4SF4](#), [HNF4A](#))

Genetic predisposition to high fasting insulin, ApoB, and testosterone (in women) may be causally associated with gallstones. In contrast, genetically high levels of omega-3s, especially DHA, may be causally associated with a lower risk of gallstones [R, R. R, R, R].

GENE	SNP	GENOTYPE
ANO1	rs56363382	CC
FDFT1	rs13280055	GG
SERAC1	rs12528678	GG
C12ORF43	rs7979473	AA
HNF1B	rs17138478	CC
UGT1A6	rs1105880	AA
GDF6	rs12547281	GG
DMWD	rs74821481	GG
LITAF	rs11644920	AA
FADS1	rs174567	AA
SAMM50	rs2076211	TT
DAGLB	rs4724803	AA
FTO	rs1558902	TT
CCDC158	rs12500824	AA
TRIB1	rs2954021	AA

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	Bile Salts	2	Choose Healthy Fats
3	Exercise At Least One Hour a Day1 hour	4	Strength Training1 hour
5	Eat Fiber-Rich Foods	6	Aerobic Exercise (Cardio)1 hour
7	Vitamin C500 mg	8	Avoid Selenium Supplements
9	Avoid Large Meals	10	Avoid Rapid Weight Changes
11	Limit Saturated Fat	12	Wheat Bran
13	Maintain a Regular Meal Schedule	14	Psyllium5 g
15	Limit Trans Fats	16	Mindful Eating
17	Acupuncture1 hour	18	Curcumin500 mg
19	Practice Exercise Snacks1 minutesute	20	Fruits And Vegetables
21	Polyunsaturated Fatty Acids (PUFAs)		

1



Bile Salts

IMPACT4 / 5

EVIDENCE4 / 5

How to implement

Take one bile salt supplement with each meal, not exceeding three times a day. Ensure to drink at least a full glass of water with each dose. For best results, continue taking bile salts with meals for at least a month to evaluate their effectiveness on digestive health.

Description

Bile salts are natural compounds produced by the liver and stored in the gallbladder. They play a crucial role in digestion by aiding in the breakdown and absorption of dietary fats.

Bile salts are important compounds found in bile. They help digest fats in the gut [\[R\]](#).

Bile salts are often used to counter bile salt deficiency and treat gallstones. Examples of bile salts include [\[R\]](#):

- UDCA
- CDCA

How it helps

Experts recommend bile salts to help prevent gallstones in people undergoing weight loss surgery [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Prescription bile salts may help dissolve gallstones and prevent additional ones from forming. They may also reduce the need for gallbladder removal [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Ask your doctor about bile salts.

2



Choose Healthy Fats

IMPACT

4 / 5

EVIDENCE

4 / 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

Higher intake of trans and saturated fats is linked to gallstones. This is because these fats are more likely to raise blood cholesterol [\[R, R, R, R, R\]](#).

High blood cholesterol may raise the amount of cholesterol in the bile. Elevated cholesterol in the bile is a major cause of gallstone formation [\[R, R, R\]](#).

On the other hand, a diet rich in healthy fats may help reduce cholesterol and prevent gallstones. To achieve this, experts recommend **eating less meat and more nuts** [\[R, R, R, R, R, R\]](#).

 PERSONALIZED TO YOUR GENES

People with your [PPARA](#) gene variant may see a bigger drop in cholesterol from diets low in saturated fat [\[R\]](#). Try to focus on healthy unsaturated fat sources.

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
PPARA	rs135549	TT	

3



Exercise At Least One Hour a Day

IMPACT

3 / 5

EVIDENCE

4 / 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

A sedentary lifestyle may increase the odds of developing gallstones. Regular exercise may prevent gallstones [\[R, R, R, R, R, R\]](#).

Exercise may help by [\[R\]](#):

- Maintaining a healthy weight
- Preventing cholesterol buildup in the gallbladder
- Boosting gallbladder and gut function
- Reduce insulin resistance

4

Strength Training

IMPACT

3 / 5

EVIDENCE

4 / 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

A sedentary lifestyle may increase the odds of developing gallstones. Regular exercise may prevent gallstones [R, R, R, R, R, R].

Exercise may help by [R]:

- Maintaining a healthy weight
- Preventing cholesterol buildup in the gallbladder
- Boosting gallbladder and gut function
- Reduce insulin resistance

5



Eat Fiber-Rich Foods

IMPACT

3 / 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 agree that eating foods high in fiber may help prevent gallstones. They recommend eating more fiber-rich fruits and vegetables [\[R, R, R, R, R\]](#).

Fiber-rich foods and supplements like **wheat bran (10-32 g/day)** and **psyllium husk (15 g/day)** may help by:

- Reducing toxic bile acids [\[R, R, R\]](#)
- Boosting beneficial bile acids [\[R\]](#)
- Reducing cholesterol [\[R, R, R\]](#)

 PERSONALIZED TO YOUR GENES

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

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
LEP	rs7799039	GG	

6

Aerobic Exercise (Cardio)

IMPACT3 / 5

EVIDENCE4 / 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

A sedentary lifestyle may increase the odds of developing gallstones. Regular exercise (including cardio) may prevent gallstones [\[R, R, R, R, R, R\]](#).

Exercise may help by [\[R\]](#):

- Helping maintain a healthy weight
- Preventing cholesterol buildup in the gallbladder
- Boosting gallbladder and gut function
- Reduce insulin resistance

7



Vitamin C

IMPACT2 / 5

EVIDENCE2 / 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

Experts say that vitamin C (2,000 mg/day) may prevent gallstones. It likely helps by preventing the buildup of cholesterol in the bile [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Likewise, low intake of vitamin C is linked to developing gallstones [\[R\]](#), [\[R\]](#), [\[R\]](#).

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

8



Avoid Selenium Supplements

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Do not take any dietary supplements that contain selenium. Check the labels of all multivitamins or dietary supplements you are considering to ensure they do not list selenium as an ingredient.

Description

You may need to stop taking selenium supplements. You should also make sure that your total selenium intake from any other supplements does not exceed the recommended daily intake dose [R, R, R].

How it helps

A cross-sectional study in 7192 adults found that selenium increased the risk of gallstones, especially in people who were [R]:

- 65 years or younger
- Women
- Non-Hispanic Whites
- Non-drinkers
- Obese

9



Avoid Large Meals

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Divide your daily food intake into smaller portions spread out over five to six times a day instead of having three large meals. Ensure that each portion is balanced and includes a variety of nutrients. This means having breakfast, a mid-morning snack, lunch, an afternoon snack, dinner, and possibly a light evening snack, depending on your caloric needs.

Description

Eating smaller, more frequent meals may help prevent overeating. This involves eating the same number of meals at about the same times every day. Doing so may help with issues like blood pressure, body weight, cholesterol levels, and migraines.

Eating smaller, more frequent meals may help prevent overeating. One way to do this is to keep a regular meal schedule. This involves eating the same number of meals at about the same times every day. Doing so may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Manage blood pressure
- Balance the internal clock
- Maintain a healthy body weight
- Support healthy cholesterol levels
- Prevent migraines

How it helps

Smaller, more frequent meals help regulate the flow of bile and reduce the likelihood of gallstone formation.

10



Avoid Rapid Weight Changes

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Maintain a consistent, healthy weight by avoiding extreme dieting or sudden increases in food intake. Aim for gradual weight changes, not exceeding 1-2 pounds per week, by adjusting your diet and physical activity levels accordingly. This approach should be sustained over a long-term period to ensure health and prevent potential adverse effects on the body.

Description

Avoiding extreme and rapid weight changes, whether through crash diets or excessive calorie restriction, is essential for preventing negative health consequences such as nutritional deficiencies and metabolic disruptions.

Your weight is determined by the number of calories you consume compared to those you burn. Changes in exercise frequency, amount and type of food consumed, and alcohol intake may alter your energy expenditure. This may cause small weight fluctuations [R].

Some people may gain or lose weight at a faster rate. Rapid weight fluctuations may be due to [R, R]:

- Very drastic diets
- Water retention or dehydration
- Hormonal changes
- Pregnancy
- Taking certain medications
- Certain health conditions

How it helps

Gradual weight loss is recommended over rapid weight changes, as losing weight too quickly can lead to the formation of gallstones. A steady, sustainable pace helps prevent gallbladder issues.

11



Limit Saturated Fat

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

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

Description

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

How it helps

Limiting saturated fat in your diet helps reduce cholesterol levels in your bile, which makes it less likely to form gallstones. Less saturated fat means less cholesterol for gallstones to form from.

12



Wheat Bran

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate wheat bran into your diet by adding 1-2 tablespoons to your breakfast cereal, yogurt, or smoothies daily. Start with a smaller amount and gradually increase to avoid digestive discomfort.

Description

Wheat bran is the outer layer of the wheat kernel, rich in dietary fiber and essential minerals like magnesium. It is used to promote digestive health, regulate bowel movements, and may help lower cholesterol levels.

How it helps

Wheat bran is high in dietary fiber which aids in digestion and accelerates the transit of food through the digestive system, potentially reducing the risk of gallstone formation by limiting bile stagnation. While not a cure, regular consumption can act as a preventive measure.

13



Maintain a Regular Meal Schedule

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Eat your meals at the same times each day, for instance, breakfast at 7 AM, lunch at 12 PM, and dinner at 6 PM. Stick to this schedule every day, including weekends, to help regulate your body's internal clock and improve digestion.

Description

Maintaining a regular meal schedule helps regulate blood sugar levels, supports digestion, and promotes a healthy metabolism. Consistency in meal timing can contribute to overall energy balance and long-term weight management.

Blood sugar ([glucose](#)) is the body’s main source of energy. It increases after a meal. Skipping meals may reduce this energy supply and lead to [R](#), [R](#):

- Poor cognitive performance
- Headaches

A regular meal schedule means eating the same number of meals at about the same times every day. Doing so may help [R](#), [R](#):

- Balance the internal clock
- Maintain a healthy body weight
- Support healthy cholesterol levels
- Prevent migraines

How it helps

Eating at regular intervals can help maintain consistent bile flow and reduce gallstone risk.

14



Psyllium

IMPACT

0 / 5

EVIDENCE

0 / 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

Psyllium, a high-fiber supplement, helps in the prevention of gallstones by binding to dietary cholesterol, making it more difficult for gallstones to form. It also supports healthy bowel movement, decreasing the chance of bile stagnation that can contribute to gallstone formation.

15

Limit Trans Fats

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

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

Description

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

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

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

How it helps

Limiting trans fats in your diet helps maintain a healthy weight, which reduces the risk of gallstones by preventing your gallbladder from concentrating bile, a process that can facilitate stone formation. Additionally, trans fats can lead to higher levels of cholesterol, a component of some gallstones, therefore reducing intake can decrease gallstone development.

16

Mindful Eating

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Allocate at least 20-30 minutes for each meal, taking small bites and chewing each bite around 20-30 times before swallowing. This practice should be maintained consistently at every meal to enhance digestion and control portion sizes.

Description

Chewing slowly and thoroughly can aid in digestion and promote a sense of fullness, potentially assisting with portion control and weight management. It can also enhance nutrient absorption by breaking down food more effectively in the mouth.

How it helps

Eating slowly and chewing thoroughly can prevent overeating and excessive secretion of bile, reducing stress on the gallbladder.

17



Acupuncture

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Visit a licensed acupuncturist for a session, typically lasting between 30 to 60 minutes, once or twice a week. Depending on your specific condition, a course of treatment might range from a few weeks to several months.

TYPICAL STARTING DOSE

1 hour

Description

Acupuncture is a part of traditional Chinese medicine. It involves inserting thin needles at specific points on the body. People use it to relieve pain and allergies, as well as reduce nausea and improve sleep.

[Acupuncture](#) is a part of traditional Chinese medicine. It involves **inserting thin needles at specific points on the body**. People use it to [[R](#), [R](#), [R](#), [R](#), [R](#)]:

- Relieve pain
- Improve sleep quality
- Relieve allergies
- Reduce nausea

How it helps

Acupuncture can stimulate specific points on the body to promote the flow of energy or 'qi', potentially improving gallbladder function and easing gallstone symptoms such as abdominal pain. However, it doesn't eliminate gallstones.

18



Curcumin

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a 500 mg curcumin supplement daily with food. To enhance absorption, take it with a meal that contains fats or oils since curcumin is fat-soluble.

TYPICAL STARTING DOSE

500 mg

Description

Curcumin is a compound found in turmeric known for its anti-inflammatory and antioxidant properties. It has been studied for its potential to reduce inflammation, support joint health, and contribute to overall well-being.

[Turmeric](#) is a yellow spice from India. It may reduce inflammation and [oxidative stress](#) [\[R\]](#).

The most important active compound in turmeric is **curcumin**. People use curcumin for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Joint pain
- Hay fever
- Mood
- High blood sugar
- Gut health
- Liver health

How it helps

Curcumin aids gallstone conditions by stimulating the gallbladder to produce more bile, which helps dissolve the stones. It also has anti-inflammatory properties that can alleviate pain and inflammation caused by gallstones.

19



Practice Exercise Snacks

IMPACT

0 / 5

EVIDENCE

0 / 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

Staying active promotes overall well-being, which can help in weight management and potentially reduce the risk of gallstones through improved metabolic health.

20



Fruits And Vegetables

IMPACT

0 / 5

EVIDENCE

0 / 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

Fruits and vegetables are high in dietary fiber and other nutrients that help to break down the cholesterol in your bile, preventing it from forming into gallstones. Regular consumption of these foods can also facilitate healthy weight management, which reduces the risk of gallstone development.

21



Polyunsaturated Fatty Acids (PUFAs)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods rich in polyunsaturated fatty acids (PUFAs) into your daily diet. Examples include eating fatty fish like salmon, mackerel, or sardines two to three times a week, using plant-based oils like flaxseed, soybean, and canola oil in cooking and salads, and adding nuts and seeds such as walnuts and flaxseeds to your meals or snacks daily.

Description

Polyunsaturated fatty acids (PUFAs) are fatty acids with at least two double bonds. They are considered "healthy fats" and include **omega-3 and omega-6** fatty acids [\[R\]](#).

[Omega-3 fatty acids](#) help [\[R\]](#), [\[R\]](#):

- Lower inflammation and blood sugar
- Protect the heart, brain, and eyes

Omega-6 fatty acids play important roles in [\[R\]](#):

- Skin health
- Energy production
- Immunity

Good sources of PUFAs include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Fish and seafood
- Plant oils (e.g., flaxseed, corn, sunflower, soybean, and grapeseed oil)
- Seeds (e.g., safflower, sunflower, and pumpkin seeds)
- Walnuts
- Tofu

How it helps

Polyunsaturated fatty acids (PUFAs) help reduce the cholesterol levels in your bile, preventing it from solidifying into gallstones. Higher PUFA intake can also lead to improved gallbladder function, reducing the risk of gallstones.

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.

	Bilirubin, Urine		Optimal High	9 Nov 2025
	ALT	26 IU/L	9203546	9 Nov 2025
	AST	17 IU/L	5173040	9 Nov 2025
	T4 Free (FT4)	1.26 ng/dL	0.81.6	9 Nov 2025
	ALP	68 IU/L	3060130	9 Nov 2025
	GGT	9 IU/L	31595	9 Nov 2025
	Bilirubin, Direct	0.3 mg/dL	00.2	9 Nov 2025
	LDL Cholesterol	103 mg/dL	0100130189	9 Nov 2025
	Lipase	55 U/L	760	9 Nov 2025

	Bilirubin, Indirect	0.7 mg/dL		9 Nov 2025
	Insulin, Fasting	9.08 uU/mL		9 Nov 2025
	Amylase	64.3 IU/L		9 Nov 2025
	Testosterone, Total	1500 ng/dL		9 Nov 2025
	Bilirubin, Total	1 mg/dL		9 Nov 2025
	ApoB	108 mg/dL		9 Nov 2025