

Liver Cirrhosis

Disease Report

REPORT CATEGORY —



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

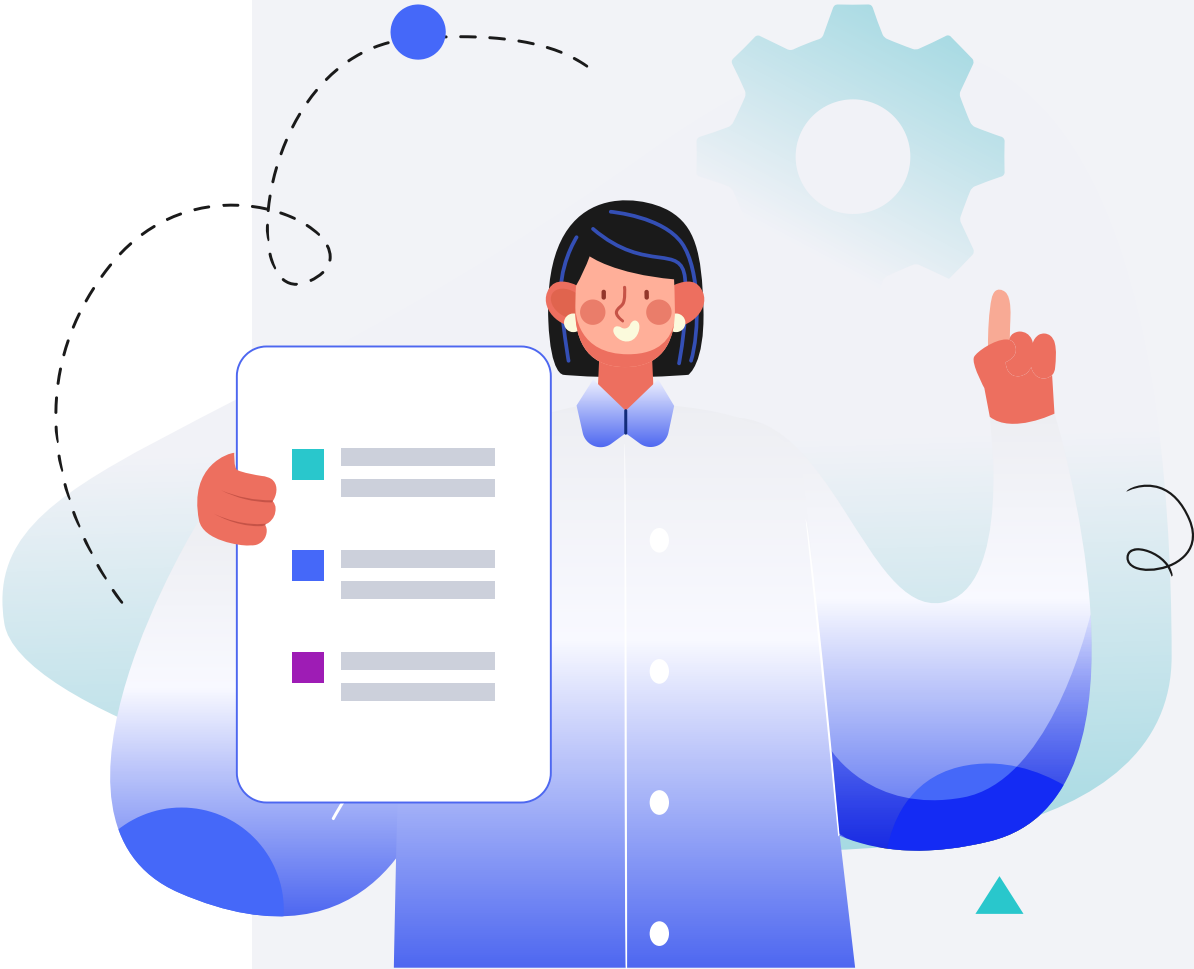
Male

HEIGHT

5ft 5" 165cm

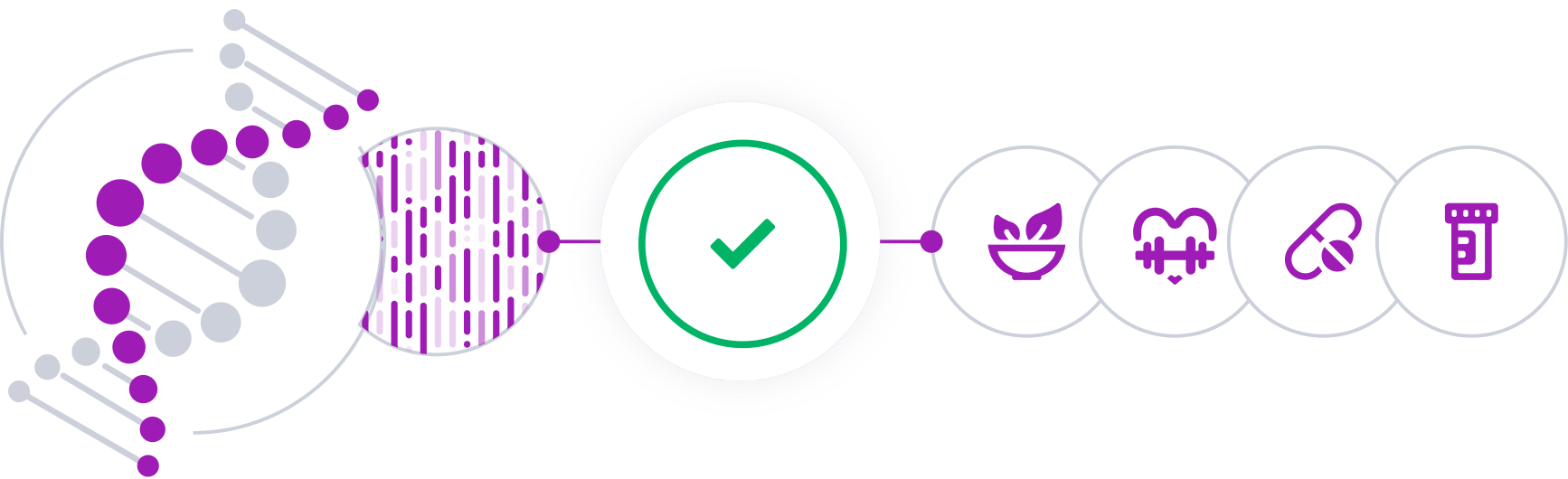
WEIGHT

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.

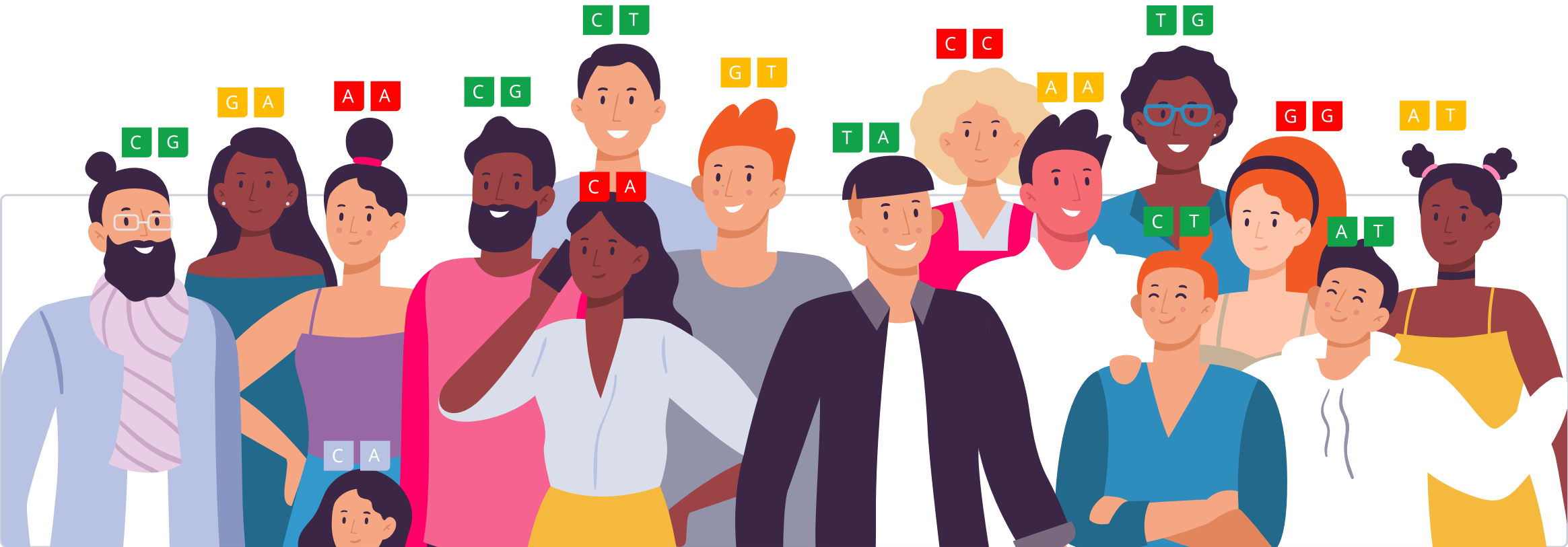


Similarly, our Trait Reports look at how your DNA influences your traits.



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

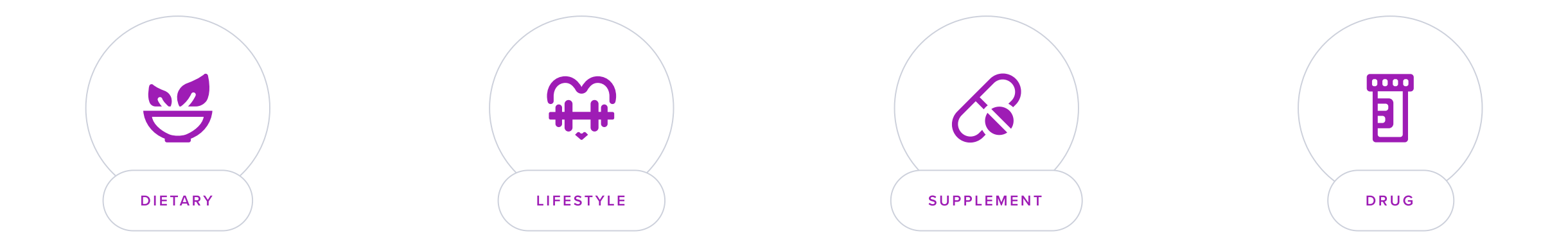
You have 2 risk alleles

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

Liver cirrhosis is a chronic and progressive liver condition in which healthy liver tissue gets replaced with scar tissue. This disrupts the liver's normal structure and function and may lead to serious complications [\[R\]](#).

Cirrhosis often results from long-term damage to the liver caused by various diseases, toxins, and alcohol.

Signs and symptoms of liver cirrhosis may include [\[R\]](#):

- Fatigue and weakness
- Loss of appetite and weight loss
- Nausea and vomiting
- Abdominal pain and swelling
- Jaundice (yellowing of the skin and eyes)
- Dark urine and pale stools
- Easy bruising and bleeding
- Spider-like blood vessels on the skin

Treatment for liver cirrhosis depends on the cause and the severity of the condition. It can range from lifestyle changes to medication to a liver transplant for the most severe cases.

It is crucial to consult with a healthcare professional for a proper diagnosis and tailored treatment plan for liver cirrhosis.

Risk Factors and Genetics

Liver cirrhosis is a chronic and progressive liver condition in which healthy liver tissue gets replaced with scar tissue.

About **50%** of the differences in liver scarring may be due to **genetics**. Genes play a role in a number of conditions that can cause cirrhosis, like autoimmune disorders or fatty liver [\[R, R\]](#).

Older people, men, and heavy drinkers may be at a higher risk of cirrhosis. Contributing health conditions include [\[R\]](#):

- Viral hepatitis
- Fatty liver
- Autoimmune liver diseases
- Inherited metabolic disorders



LESS LIKELY

Less likely to get liver cirrhosis based on **1,671** genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CCDC196	rs115335372	CC
SAMM50	rs2294915	TT
ADAMTS9	rs1482588	AA
ALDH2	rs671	GG
HSD17B13	rs10433937	TT
FAF2	rs11134977	TT
SAMM50	rs2896019	GG
/	rs4749900	CT
TMC4	rs2576452	TC
HLA-B	rs3819290	AG
HLA-DRB1	rs3129860	GA
SERPINA1	rs28929474	CC
ATP13A1	rs73004967	AA
MAU2	rs10401969	TT
GATAD2A	rs3794991	CC
PDE7B	rs9494417	GG
TAF4B	rs1676988	AA
GATAD2A	rs10424702	AA
HLA-DQA2	rs3129943	AA
HLA-DRB5	rs910049	CT
HLA-DQB1	rs9405098	GG
HLA-DQA2	rs3135363	AA
HLA-DQA2	rs3817963	CT

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	Probiotics	10 billion	2	BCAAs (Branched-Chain Amino Acids)	5 g
3	L-Ornithine L-Aspartate	3 g	4	Exercise At Least One Hour a Day	1 hour
5	Aerobic Exercise (Cardio)	1 hour	6	Avoid Air Pollution	
7	Avoid Aflatoxins		8	Vitamin E	200 iu
9	DASH Diet		10	Avoid Mycotoxin	
11	Milk Thistle (Silymarin)	300 mg	12	Maintain Optimal Vitamin D Levels	1000 iu
13	Mediterranean Diet		14	Avoid Lead Exposure	
15	Avoid PFAS Exposure		16	Turmeric	
17	Cordyceps	500 mg	18	Avoid Cadmium Exposure	
19	Lactobacillus Casei	10 billion CFU	20	Curcumin	500 mg
21	Salvia Miltiorrhiza and Astragalus	200 mg	22	Aloe Vera	50 mg
23	Avoid Organophosphate Pesticide Exposure		24	Taurine	500 mg
25	TUDCA (Tauroursodeoxycholic Acid)	250 mg	26	Papaya	500 mg
27	L-Carnitine	500 mg	28	Fruits And Vegetables	
29	N-acetylcysteine (NAC)	1200 mg	30	Salvia Miltiorrhiza	
31	Dietary Omega-3 Fatty Acids		32	Sea Buckthorn	

- 33

Avoid Refined Sugar
- 34

Avoid Raw Seafood
- 35

Limit Copper Intake
- 36

Sleep for 7+ Hours
- 37

Astragalus500 mg
- 38

Zinc15 mg
- 39

Avoid Illicit Drugs

1



Probiotics

IMPACT

4 / 5

EVIDENCE

3 / 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

People with liver cirrhosis may have an imbalance in gut bacteria. *Lactobacillus* and *Bifidobacterium* probiotic supplements may help [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Improve lab markers
- Reduce complications and prevent them from getting worse
- Reduce hospitalization rates

However, they may not reduce mortality [\[R\]](#).

2



BCAAs (Branched-Chain Amino Acids)

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take a BCAA supplement that provides about 5-10 grams of branched-chain amino acids, divided into 2-3 doses per day, preferably around your workout times or between meals. This regimen can be followed daily, especially on training days for muscle support and recovery.

TYPICAL STARTING DOSE

5 g

Description

BCAAs, or **branched-chain amino acids**, are a group of three essential amino acids: **leucine**, **isoleucine**, and **valine**. They are found in dietary protein sources, especially meat, dairy, and legumes.

BCAAs, or **branched-chain amino acids**, are a group of three essential amino acids: **leucine**, **isoleucine**, and **valine**. They are found in dietary protein sources, especially meat, dairy, and legumes [R].

BCAAs play a vital role in protein synthesis, muscle growth, and energy production. People use BCAA supplements to support exercise and muscle performance, liver health, and more [R, R].

How it helps

BCAA supplements may help people with liver cirrhosis by [R, R, R, R]:

- Increasing lifespan
- Reducing complications
- Improving nutritional status

However, they may not improve quality of life or reduce mortality in people with a severe form of cirrhosis affecting the brain (hepatic encephalopathy) [R, R, R, R].

Please note: *There is not enough safety data for long-term BCAA supplementation at doses above **12 g/day**. Increased BCAA intake may be linked to type 2 diabetes [R].*

3



L-Ornithine L-Aspartate

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 3 to 6 grams of L-Ornithine L-Aspartate daily, divided into two to three doses, with water. This regimen can be followed daily for up to 6 months to support liver health and help in reducing symptoms of high ammonia levels.

TYPICAL STARTING DOSE
3 g

Description

L-ornithine is an amino acid often used to reduce exercise-related fatigue and support muscle recovery. It is also studied for its role in promoting detoxification processes in the body. L-aspartate is an amino acid used in dietary supplements to support liver function, improve exercise performance, as well as playing a role in energy metabolism.

How it helps

Multiple meta-analyses (the largest one with 36 trials) concluded that L-ornithine L-aspartate helps improve and prevent hepatic encephalopathy, as well as reduce mortality, in people with liver cirrhosis [\[R, R, R, R, R, R\]](#).

4



Exercise At Least One Hour a Day

IMPACT

2 / 5

EVIDENCE

3 / 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

In people with cirrhosis, regular workouts can boost liver health and fitness while reducing complications [\[R, R\]](#).

Losing weight through diet and exercise may improve body composition in people with cirrhosis [\[R\]](#).

5

Aerobic Exercise (Cardio)

IMPACT2 / 5

EVIDENCE3 / 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

In people with cirrhosis, regular workouts (including aerobic exercise) can boost liver health and fitness while reducing complications [\[R, R\]](#).

Losing weight through diet and exercise may improve body composition in people with cirrhosis [\[R\]](#).

6



Avoid Air Pollution

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Stay indoors on days when air quality indexes (AQI) indicate high pollution levels, which are often reported by weather services or government environmental agencies. **Install air purifiers** in your home, especially in bedrooms, to reduce indoor pollutants. Limit outdoor exercise when air pollution warnings are issued, opting for indoor activities instead.

Description

Avoiding air pollution by reducing exposure to pollutants in the environment is essential for respiratory and overall health. It can help lower the risk of respiratory diseases, cardiovascular conditions, and other health issues associated with poor air quality.

While city life is convenient in a lot of ways, it comes with some health hazards. Cars, factories, and other sources increase air [pollution](#) [\[R\]](#).

Air pollution plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Lung disease
- Heart disease
- Diabetes
- Asthma
- Skin conditions

How it helps

People living in polluted areas may have higher mortality from liver cirrhosis - **9%** in men and **13%** in women [\[R\]](#).

For every **10-unit increase** in particulate matter (PM2.5) exposure, the risk of liver cirrhosis may rise by **17%** [\[R\]](#).

Tips for lowering exposure to air pollution include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Monitoring air pollution levels regularly
- Using an appropriate face mask when pollution levels are high
- Avoiding outdoor exercise when pollution levels are high
- Cleaning and maintaining air filtration systems
- Not burning wood or trash
- Using protective respiratory equipment at work, if needed

7



Avoid Aflatoxins

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Store grains and nuts in a dry, cool place to prevent mold growth. Check for moldy smells or discoloration in foods before eating, especially in peanuts, corn, and grains. Avoid purchasing damaged or discolored grains and nuts.

Description

Aflatoxins are toxic substances produced by molds that can contaminate various food products, particularly nuts and grains. Avoiding foods contaminated with aflatoxins is crucial to prevent potential health risks, including liver damage and cancer.

How it helps

Avoiding aflatoxins, toxins produced by certain molds, is beneficial for liver scarring as they can cause further damage and inflammation to your liver cells. It lessens the additional stress on your liver, which can expedite the healing process and prevent worsening of liver scarring.

Aflatoxin exposure significantly increases the risk of liver cirrhosis, according to a systematic review and meta-analysis of 5 studies [\[R\]](#).

8



Vitamin E

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take 200 IU of Vitamin E daily as a supplement, preferably with a meal that contains fat to enhance absorption.

TYPICAL STARTING DOSE

200 iu

Description

Vitamin E is a fat-soluble antioxidant found in various foods, such as nuts and seeds. It is known for its ability to protect cells from oxidative damage, support immune function, and may play a role in skin health. Vitamin E supplements are used to bolster antioxidant defenses and may be beneficial for conditions related to oxidative stress.

[Vitamin E](#) is an antioxidant important for the immune system and for heart health [\[R\]](#).

Plant-based foods have the most vitamin E. These include [\[R\]](#):

- Wheat germ
- Sunflower seeds
- Almonds
- Plant oils

Adults need about **15 mg** of vitamin E per day [\[R\]](#).

How it helps

Vitamin E supplementation may improve liver scarring in people with fatty liver (NAFLD) [\[R\]](#), [\[R\]](#).

Vitamin E may help by reducing oxidative stress [\[R\]](#).

Please note: *While dietary vitamin E is generally considered safe, vitamin E supplements have been linked to prostate cancer. They may also not be the best option for pregnant women. Those who have heart disease, bleeding disorders, or other conditions may also need to avoid them. Consult your doctor before taking vitamin E supplements* [\[R\]](#), [\[R\]](#), [\[R\]](#).

9



DASH Diet

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Adopt a dietary pattern that emphasizes fruits, vegetables, whole grains, lean proteins, and low-fat dairy, while reducing sodium, red meat, sweets, and sugary beverages. Aim for 4-5 servings of both fruits and vegetables per day, 6-8 servings of grains (with at least half being whole grains), and 2-3 servings of low-fat dairy. This diet should be followed daily to manage blood pressure effectively.

Description

The DASH (Dietary Approaches to Stop Hypertension) diet is a dietary plan designed to reduce high blood pressure. It emphasizes fruits, vegetables, lean proteins, and whole grains while limiting sodium intake.

Health experts developed the DASH diet to reduce blood pressure. This diet also helps support weight control while reducing inflammation and cholesterol [\[R\]](#).

It **limits salt, sweets, and saturated fat**, while promoting the intake of [\[R\]](#):

- Fruits (4-5 servings/day)
- Vegetables (4-5 servings/day)
- Whole grains (6-8 servings/day)
- Low-fat dairy (2-3 servings/day)
- Nuts, seeds, and legumes (4-5 servings/week)
- Fish and poultry (up to 6 ounces/day)

The DASH diet focuses on fresh, minimally processed food rich in nutrients. Magnesium, calcium, and potassium-rich foods are particularly important due to their beneficial effects on the heart and blood vessels [\[R\]](#).

Although similar to the [Mediterranean diet](#), DASH is lower in sodium (<2,300 mg a day) and omega-3 fatty acids. On the other hand, it’s higher in red meat and dairy [\[R\]](#).

How it helps

Following the DASH diet is linked to a slightly lower risk of liver cirrhosis [\[R\]](#).

People with advanced cirrhosis may experience fluid buildup. They may need to follow a low-salt diet, such as the DASH diet [\[R\]](#), [\[R\]](#).

10



Avoid Mycotoxin

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

To avoid mycotoxins, store grains and nuts in a dry, cool place, check for mold on foods before eating, and avoid consuming products with visible mold. Prefer buying whole foods over processed ones, and if possible, opt for foods tested for mycotoxin contamination. Discard any food that smells musty or shows signs of spoilage.

Description

Avoiding mycotoxin exposure, which can occur in contaminated foods, is crucial to prevent potential health risks such as liver damage and cancer. Being cautious about food quality and storage conditions can help minimize the risk of mycotoxin ingestion.

How it helps

A meta-analysis of 5 studies associated exposure to aflatoxins with 2- to 3-fold higher risk of liver cirrhosis [\[R\]](#).

Mycotoxins can cause liver damage when ingested.

11



Milk Thistle (Silymarin)

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take a 300 mg milk thistle (silymarin) supplement daily with water, preferably with a meal for better absorption. Continue this regimen as advised by your healthcare provider.

TYPICAL STARTING DOSE

300 mg

Description

Silymarin is a natural plant extract derived from the milk thistle plant (*Silybum marianum*). It has been traditionally used for its potential anti-inflammatory and liver-protective properties. Silymarin consists of several flavonolignans, including silybin, silydianin, and silychristin.

Milk thistle (*Silybum marianum*) is a purple flowering plant in the daisy family. Traditionally, it has been used for liver problems. Some people also eat the leaves in salads [R, R].

The extract of milk thistle is called *silymarin* [R, R, R].

People use milk thistle to help with [R, R, R]:

- Liver problems
- Blood sugar control
- Indigestion
- Skin problems

How it helps

Long-term silymarin supplementation (280-600 mg/day for up to 2 years) may reduce mortality in people with this condition. However, the evidence to support this benefit is of low quality [R, R, R].

Based on a single study in people with advanced liver cirrhosis, **high doses of silymarin (1050 mg/day for 12 weeks)** could improve [R, R]:

- Lab markers of liver function
- Quality of life

Please note: Avoid milk thistle if you’re allergic to ragweed, daisies, or chrysanthemums. Because it belongs to the same plant family, it may cause similar reactions. People with diabetes or some forms of cancer should talk to their doctor before taking milk thistle. Milk thistle may also interact with some medications [R, R].

12

Maintain Optimal Vitamin D Levels

IMPACT

1 / 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

Low vitamin D levels are linked to:

- **70-140%** higher risk of severe liver scarring in people with hepatitis C [\[R\]](#), [\[R\]](#), [\[R\]](#)
- **77%** higher mortality in people with liver cirrhosis [\[R\]](#)

However, there’s no evidence that vitamin D supplementation may reduce the risk of cirrhosis or improve this condition.

13



Mediterranean Diet

IMPACT1 / 5

EVIDENCE2 / 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

According to some experts, a healthy diet rich in fruits and vegetables may help with cirrhosis [\[R\]](#).

Following the Mediterranean diet is linked to a slightly lower risk of cirrhosis [\[R\]](#).

14

Avoid Lead Exposure

IMPACT

1 / 5

EVIDENCE

2 / 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

In a study of 2,499 patients with NAFLD, higher serum lead levels were linked to a nearly six-fold increased risk of advanced liver fibrosis [\[R\]](#).

15

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 1150 participants associated PFOS with liver fibrosis but not steatosis [\[R\]](#).

Another study (5073 participants) associated high exposure to PFOA with a 2-fold higher risk of MAFLD [\[R\]](#).

PFAS chemicals can cause liver damage, which leads to scarring.

16



Turmeric

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate 500-1000 mg of turmeric into your daily diet, either by adding ground turmeric spice to your food, such as in curries, soups, and smoothies, or by taking a dietary turmeric supplement. This should be done daily for at least 8 weeks to observe potential health benefits.

Description

Turmeric is a bright yellow spice derived from the root of the *Curcuma longa* plant. It contains curcumin, a potent antioxidant and anti-inflammatory compound. Turmeric is used for various health conditions, including reducing inflammation, alleviating joint pain, and supporting digestive health.

How it helps

In a placebo-controlled trial of 70 liver cirrhosis patients, supplementation with curcumin (1,000 mg/day) for 3 months significantly reduced the disease severity scores MELD(i), MELD, MELD-Na, and Child-Pugh scores, while the placebo group saw increases [\[R\]](#).

In a 12-week study on liver cirrhosis patients, those who received 1000 mg/day of curcumin showed improved quality of life (QoL) across various domains, including reduced symptoms and better physical and mental health compared to the placebo group [\[R\]](#).

17



Cordyceps

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500-1000 mg of Cordyceps extract in supplement form once daily, preferably with a meal to enhance absorption. This dosage is commonly recommended for general wellness and should be continued on a long-term basis, as effects accumulate over time.

TYPICAL STARTING DOSE

500 mg

Description

Cordyceps is a type of medicinal mushroom known for its potential to boost endurance and enhance respiratory function. It's used in traditional medicine and dietary supplements to support physical performance and overall vitality.

[Cordyceps](#) are a group of fungi (mushrooms) that grow on insects. Some species, like *O. sinensis* and *C. militaris*, are used in supplements [\[R\]](#).

O. sinensis grows on a moth caterpillar. Extracts and teas made from the fungus-caterpillar combination are often used in traditional Chinese medicine. They are thought to boost sex drive, reduce fatigue, and support kidney health [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

Cordyceps could help with liver scarring because it contains anti-inflammatory properties that can reduce inflammation, aiding in the prevention and mitigation of further liver damage. Additionally, some studies suggest that Cordyceps may enhance liver function by boosting its detoxification abilities and promoting cell regeneration.

In a [non-placebo-controlled trial of 60 patients with chronic hepatitis B](#), supplementation with cordyceps (24x/day for 6 months) **lowered liver fibrosis and inflammation, as well as serum ALT, AST, HA, PC-III, and LN levels** [\[R\]](#).

18



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

In a study of 15,783 subjects, serum cadmium levels were significantly linked to elevated ALT, substantial liver steatosis, and fibrosis. Individuals in the fourth quartile of serum cadmium had higher odds of ALT elevation and hepatic steatosis compared to the first quartile [\[R\]](#).

Cadmium can cause inflammation in the liver, eventually leading to liver damage and scarring.

19



Lactobacillus Casei

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement containing Lactobacillus casei daily, with a dosage recommended by the product's manufacturer or a healthcare professional. The specific amount can vary, but it is commonly found in doses around 10 billion colony-forming units (CFUs). Continue this regimen for at least 4 weeks to observe potential health benefits.

TYPICAL STARTING DOSE
10 billion CFU

Description

Lactobacillus casei is a probiotic bacterium known for its potential to support gut health and immune function. It contributes to a balanced gut microbiome and may help alleviate digestive issues like diarrhea.

[Lactobacillus casei](#) is a [probiotic](#) bacterium found in fermented foods (e.g., cheese), as well as in the reproductive and gastrointestinal tracts of humans and other animals [\[R, R\]](#).

People mainly take *L. casei* to support a healthy gut microbiota [\[R\]](#).

How it helps

L. casei Shirota supplementation had positive effects in patients with alcoholic cirrhosis, restoring immune function and reducing inflammation. In non-alcoholic cirrhosis patients, it lowered specific inflammatory markers. In patients with alcoholic liver injury, it improved lipid profiles and promoted beneficial gut bacteria [\[R, R\]](#).

L. casei may support liver function by processing toxins and reducing inflammatory response. Therefore, it can potentially help manage liver scarring or fibrosis by mitigating inflammation and toxin damage to the liver.

20



Curcumin

IMPACT

1 / 5

EVIDENCE

1 / 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

According to a single study, curcumin may improve disease severity and quality of life in people with cirrhosis [R].

Note that curcumin is hard to absorb. Look for supplements with *bioavailable* curcumin, which is easier to absorb. Combining it with [piperine](#) (a compound in black pepper) may also help [R, 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].

21



Salvia Miltiorrhiza and Astragalus

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a combined supplement of *Salvia miltiorrhiza* (also known as Danshen) and *Astragalus* in capsule form, with the typical dose being 200-300 mg of each herb daily. This can be taken with water, preferably with a meal to reduce the risk of stomach upset. Continue this regimen daily for at least 8-12 weeks to evaluate its effects.

TYPICAL STARTING DOSE

200 mg

Description

Salvia miltiorrhiza and *astragalus*, are plants native to China and Japan, and used in traditional Chinese medicine. Their primarily used for cardiovascular and immune health and contain compounds like tanshinones.

How it helps

In a non-placebo-controlled trial of 84 patients with liver cirrhosis, treatment with *Salvia miltiorrhiza* and *Astragalus membranaceus* as an add-on to conventional therapy further improved portal hypertension and liver fibrosis [\[R\]](#).

Salvia miltiorrhiza and *Astragalus* may help by reducing inflammation, boosting the immune system, and stimulating the regeneration of liver tissue.

22



Aloe Vera

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 50 mg Aloe vera supplement daily, with a glass of water, preferably at the same time each day to maintain consistency.

TYPICAL STARTING DOSE

50 mg

Description

Aloe vera is a succulent plant native to arid regions and contains a gel-like substance in its leaves that is rich in vitamins, minerals, and antioxidants, making it beneficial for soothing skin irritations, promoting wound healing, and providing relief from conditions such as sunburn and minor burns. The primary active compounds in aloe vera gel include polysaccharides, vitamins like vitamin C and E, and minerals such as zinc, which contribute to its healing and anti-inflammatory effects.

[Aloe vera](#) lives in the desert, and its thick leaves store water in the form of a gel [\[R\]](#).

People use aloe gel to help soften the skin and soothe burns [\[R\]](#).

Oral aloe supplements may help with blood sugar and gut health [\[R\]](#).

How it helps

In a placebo-controlled trial of 40 patients with liver fibrosis and 15 healthy controls, supplementation with Aloe vera high molecular weight fractions (0.15 g/day) for 12 weeks improved scarring while reducing inflammation and the levels of AST, ALT, and ALP [\[R\]](#).

Aloe vera has antioxidants and anti-inflammatory properties that may help reduce inflammation in the liver.

23



Avoid Organophosphate Pesticide Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To reduce organophosphate pesticide exposure, buy organic produce when possible, thoroughly wash and peel fruits and vegetables, avoid using chemical pesticides in your home and garden, and wear protective clothing and a mask if you must handle pesticides for agricultural or landscaping work.

Description

Reducing organophosphate exposure involves minimizing contact with pesticides and insecticides containing these chemicals, which can protect against potential health risks such as neurotoxicity and respiratory issues, particularly for individuals working in agriculture or pest control.

Organophosphates (OP) are the most widely used pesticides worldwide. They include [\[R\]](#):

- Parathion
- Malathion
- Chlorpyrifos
- Diazinon
- Phosmet

Chronic exposure to OPs has been linked to [\[R\]](#), [\[R\]](#):

- Fertility problems
- Cognitive problems
- Nerve damage
- Cancer and gene damage

How it helps

Reducing organophosphate pesticide exposure can help prevent liver scarring as these pesticides can cause direct toxic damage to the liver cells, leading to inflammation and eventually scarring. Less exposure means less potential harm to your liver.

A [study](#) associated **urinary DMP, DEP, and DMTP with elevated AST/ALT ratio and FIB-4** [\[R\]](#).

24



Taurine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 1-4 g of taurine supplement daily, divided into two or three doses with meals for optimal absorption. It can be taken continuously, with periodic evaluations of its effects and benefits.

TYPICAL STARTING DOSE

500 mg

Description

Taurine is an amino acid found in various foods and often used in energy drinks and supplements. It plays a role in neurological and cardiovascular health and can help support energy metabolism.

[Taurine](#) is the most abundant free amino acid in humans. It's not essential, which means we can produce it. We can also get it from protein-rich foods, such as [\[R\]](#):

- Seafood
- Meat
- Dairy

Taurine is a popular additive in energy drinks and can also be taken as a supplement [\[R\]](#).

Taurine plays an important role in [\[R\]](#), [\[R\]](#):

- Bile production
- Calcium metabolism

It is also well-known for its antioxidant and anti-inflammatory properties [\[R\]](#).

How it helps

Supplementation with [taurine](#) (2-3 g/day for 4 weeks) may help with muscle cramps in people with cirrhosis [\[R\]](#), [\[R\]](#).

Higher doses (6 g/day for 4 weeks) may improve blood flow through the liver [\[R\]](#).

Please note: *It's not sure if taurine doses over 3 g/day are safe for long-term consumption* [\[R\]](#).

25



TUDCA (Tauroursodeoxycholic Acid)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250 to 1500 mg of TUDCA (tauroursodeoxycholic acid) per day, divided into two or three doses with meals. This recommendation is based on general guidelines from clinical studies; for specific conditions or as directed by a healthcare professional, dosages may vary.

TYPICAL STARTING DOSE
250 mg

Description

TUDCA is a bile acid derivative naturally produced in small quantities in the human body and also found in the bile of bears. It is often used as a supplement due to its potential to support liver health, reduce inflammation, and protect against bile acid buildup, making it valuable in managing liver conditions like cholestasis and certain liver diseases.

TUDCA, short for tauroursodeoxycholic acid, is a [bile acid](#) that naturally occurs in the body. It consists of ursodeoxycholic acid (UDCA) and taurine [\[R\]](#).

TUDCA is known for its liver-protective effects. People often use it as a dietary supplement to support liver health and promote overall well-being [\[R\]](#).

How it helps

According to a single small study, supplementation with TUDCA (750 mg/day for 6 months) may improve lab markers of liver function in people with cirrhosis. However, it may only slightly improve liver scarring [\[R\]](#).

 PERSONALIZED TO YOUR GENES

People with your [SLCO1B](#) gene variant may absorb TUDCA better [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
SLCO1B1	rs4149056	TC	

26



Papaya

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500 mg of papaya extract daily for at least one month to observe potential health benefits. If using powdered form, it can be mixed with water or juice for easier consumption.

TYPICAL STARTING DOSE

500 mg

Description

Papaya is a tropical fruit native to Central America and Mexico that is rich in vitamins A and C, folate, and dietary fiber. It has a long history in traditional medicines as a digestive aid and promoting skin health. Papaya's extract, papain, is used as a dietary supplement for digestive support.

Papaya is a tropical orange fruit. It originates from Central America, but today it’s most widely grown in India.

People enjoy the great taste of papaya. It’s also rich in healthy nutrients that may support the immune system.

How it helps

Papaya has antioxidants like Vitamin C, E, and beta-carotene, which help neutralise harmful free radicals, thus reducing liver damage and scarring. It also assists in detoxifying the liver, by improving its ability to remove toxins from your blood.

In 2 non-placebo-controlled trials of 82 patients with HCV-relatded liver cirrhosis, consuming a fermented papaya preparation (6-9 g/day) for 6 months reduced TNF-alpha production and 8-OHdG levels [\[R\]](#), [\[R\]](#).

27



L-Carnitine

IMPACT

1 / 5

EVIDENCE

1 / 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

In people with liver cirrhosis, L-carnitine supplementation (1000-1800 mg/day for 3-6 months) may [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Improve chronic fatigue and mental health
- Reduce the risk of hospitalization
- Reduce muscle wasting and cramping

However, it may not help those with advanced cirrhosis affecting the brain (hepatic encephalopathy) [\[R\]](#).

Please note: *Supplementing with carnitine at approximately 3 g/day may cause nausea, vomiting, abdominal cramps, diarrhea, and a "fishy" body smell* [\[R\]](#).

28



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

A diet rich in fruits and vegetables provides antioxidants which can protect the liver from further damage.

29



N-acetylcysteine (NAC)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 600 mg of N-Acetylcysteine (NAC) supplement daily with water. It can be taken at any time of the day, but try to take it at the same time each day for best results.

TYPICAL STARTING DOSE

1200 mg

Description

NAC is a supplement that contains a form of the amino acid cysteine, a protein building block that your body uses to make the antioxidant glutathione. It is used for its potential antioxidant properties and its ability to support lung, gut, and mental health.

[N-acetylcysteine](#) (NAC) is converted to cysteine in the body. Cysteine is a protein building block (amino acid) that helps make the antioxidant glutathione [\[R\]](#).

People take NAC to potentially support [\[R\]](#), [\[R\]](#):

- Mental health
- Ovarian health and pregnancy outcomes
- Lung health
- Gut health

How it helps

N-acetylcysteine (NAC) can act as a precursor to glutathione, a potent antioxidant that protects the liver from harmful substances and supports its regenerative ability.

30



Salvia Miltiorrhiza

IMPACT

0 / 5

EVIDENCE

0 / 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 84 patients with liver cirrhosis, treatment with *Salvia miltiorrhiza* and *Astragalus membranaceus* as an add-on to conventional therapy further improved portal hypertension and liver fibrosis [\[R\]](#).

Salvia miltiorrhiza may help by reducing inflammation and promoting healing in the scarred tissue. It may also protect liver cells from further damage by increasing antioxidants in the body.

31



Dietary Omega-3 Fatty Acids

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

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

Description

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

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

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

- Salmon
- Tuna
- Herring
- Sardines

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

How it helps

Omega-3 fatty acids have anti-inflammatory properties which might support liver health and reduce inflammation.

32



Sea Buckthorn

IMPACT

0 / 5

EVIDENCE

0 / 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

Sea buckthorn contains potent antioxidants and omega fatty acids that may help slow the progression of liver scarring by reducing inflammation and protecting liver cells from damage. It can also stimulate liver regeneration, helping to repair and replace damaged liver tissues.

33



Avoid Refined Sugar

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Eliminate foods and beverages high in refined sugars, such as sodas, candies, pastries, and white bread, from your diet. Replace them with natural sugars found in fruits and whole grains. Implement this change immediately and maintain it indefinitely for long-term health benefits.

Description

Reducing the consumption of refined sugar and high-sugar foods can help prevent dental problems, manage blood sugar levels, and support weight management.

How it helps

Lowering refined sugar consumption helps prevent the buildup of fatty deposits in the liver, which can exacerbate scarring.

34



Avoid Raw Seafood

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Do not consume seafood that is uncooked or undercooked, including sushi, sashimi, ceviche, and raw oysters. Always ensure that seafood is cooked to an internal temperature of 145 degrees Fahrenheit before eating. Practice this avoidance consistently to reduce the risk of foodborne illnesses.

Description

Avoiding the consumption of raw seafood is recommended to reduce the risk of foodborne illnesses, including bacterial and parasitic infections such as salmonella.

Seafood is a healthy source of protein and essential nutrients such as omega-3 fatty acids and vitamins. Fish and shellfish are also low in saturated fat and cholesterol, making them a good choice for a balanced diet.

However, eating raw seafood can be dangerous as it may contain toxins and harmful germs that can cause food poisoning. Eating raw fish or shellfish, such as sushi or oysters, can increase the risk of food-borne illnesses such as **anisakiasis and salmonella infection**.

Make sure to cook seafood properly to reduce the risk of food poisoning.

How it helps

Raw seafood might carry bacteria or viruses that could lead to infections, posing additional risk to an already compromised liver.

35



Limit Copper Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Do not include copper supplements in your daily vitamin or supplement routine. Check the labels of any multivitamins or dietary supplements you are currently taking to ensure they do not contain copper. Ideally, you should also check copper levels in your tap water. If they are excessive, consider using a reliable water filter or drinking spring water.

Description

Taking too many copper supplements can cause a copper overdose in your body. This can be harmful, leading to issues like stomach pain, nausea, and even heart problems. For healthy individuals, the amount of copper obtained through a balanced diet is usually enough without needing supplementation. It's vital to maintain the natural balance of minerals in the body for good health.

Contaminated tap water can also be a source of excess copper.

How it helps

Avoiding copper supplements in liver scarring helps because the damaged liver can't properly process the copper, causing it to build up and potentially create further harm to the liver tissues. Therefore, not taking copper supplements aids in preventing further liver complications.

Genetically higher copper levels may be causally associated with an increased risk of liver cirrhosis [\[R\]](#).

36



Sleep for 7+ Hours

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Description

Optimizing sleep involves adopting healthy sleep habits and creating a sleep-conducive environment to ensure restorative and sufficient sleep duration. It supports cognitive function, mood stability, and overall physical health. Most experts recommend getting **at least 7 hours of good-quality sleep each night**.

[Sleep](#) supports your body and mind [\[R, R\]](#). More precisely, sleep helps:

- Support brain health [\[R, R\]](#)
- Maintain a healthy weight and appetite [\[R, R, R\]](#)
- Regulate blood pressure [\[R, R\]](#)
- Balance blood sugar [\[R, R\]](#)

Ways to sleep better include [\[R\]](#):

- Reducing your bright light exposure (screen time) in the evenings
- Sticking to a regular sleep schedule
- Avoiding hunger or large meals before bed
- Avoiding nicotine, caffeine, and alcohol before bed
- Maintaining a sleep area that’s cool, dark, and quiet

How it helps

Good quality sleep supports overall health, including liver function, and can help reduce the risk of additional liver scarring.

37



Astragalus

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a 500 mg astragalus supplement once daily with a meal. Continue this regimen for at least 4 to 6 weeks to evaluate its effectiveness on your overall health.

TYPICAL STARTING DOSE

500 mg

Description

Astragalus is an herb used in traditional Chinese medicine. It is believed to have immune-boosting properties and may help reduce stress and support overall vitality.

[Astragalus](#) (*Astragalus membranaceus*) is an herb used in traditional Chinese medicine. It is commonly used for “tonifying Qi” or fatigue. It may help [\[R\]](#), [\[R\]](#):

- Reduce inflammation
- Fight [oxidative stress](#)

Astragalus root is a staple of traditional Chinese medicine, where it is also known as *Huang Qi*.

How it helps

Astragalus, a herbal supplement, has properties that may help reduce inflammation and minimize fibrosis (the scarring process) in the liver. Consequently, it can potentially slow down the progression of liver scarring and maintain better liver function.

In a non-placebo-controlled trial of 84 patients with liver cirrhosis, treatment with *Salvia miltiorrhiza* and *Astragalus membranaceus* as an add-on to conventional therapy further improved portal hypertension and liver fibrosis [\[R\]](#).

38



Zinc

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

15 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

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

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [\[R\]](#).

Adults should get **8-11 mg of zinc** per day [\[R\]](#).

How it helps

Supplementation with zinc may reduce liver scarring more in patients with hepatitis C carrying certain gene variants [\[R\]](#).

39



Avoid Illicit Drugs

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Refrain from using any illegal substances, including but not limited to, narcotics, stimulants, hallucinogens, and cannabis where it's not legalized. This means not purchasing, possessing, or consuming these substances in any form or amount. Commit to this practice indefinitely for long-term health benefits.

Description

Avoiding the use of illicit drugs is essential for preserving physical and mental health, as these substances can lead to addiction, mental health disorders, and other physical health issues. Abstaining from their use supports a safer and healthier lifestyle.

Illicit drugs are highly addictive, illegal drugs. Examples include **marijuana, cocaine, meth, and MDMA (ecstasy)**. The term can also refer to a non-medical use of drugs that are legally available (e.g., medical marijuana in some countries and states) [\[R\]](#).

Illicit drug use can have a **devastating impact on all aspects of your health and wellbeing**. It can lead to [\[R\]](#):

- Dependence and addiction
- Injury and accidents
- Health and sleep problems
- Problems in family and social life

How it helps

Illicit drugs can be harmful to the liver. By avoiding these substances, the risk of further liver damage and scarring can be reduced.

Next Steps

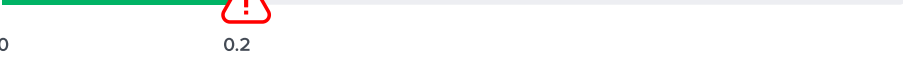
Remember, your genes only tell one important part of your health story!

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.

	ALT	26 IU/L		9 Nov 2025
	AST	17 IU/L		9 Nov 2025
	ALP	68 IU/L		9 Nov 2025
	Protein, Total	7.4 g/dL		9 Nov 2025
	GGT	9 IU/L		9 Nov 2025
	Bilirubin, Direct	0.3 mg/dL		9 Nov 2025
	Platelet Count	215 x10 ³ /mm ³		9 Nov 2025
	Sodium	137 mmol/L		9 Nov 2025
	Bilirubin, Indirect	0.7 mg/dL		9 Nov 2025

	Albumin	4.3 g/dL		9 Nov 2025
	Bilirubin, Total	1 mg/dL		9 Nov 2025