SelfDecode™

Liver Cirrhosis

Disease Report

REPORT CATEGORY

LIVER HEALTH

Sample Client

Report date: 29 July 2025

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Table of Contents

Personal information

NAME

Sample Client

SEX AT BIRTH

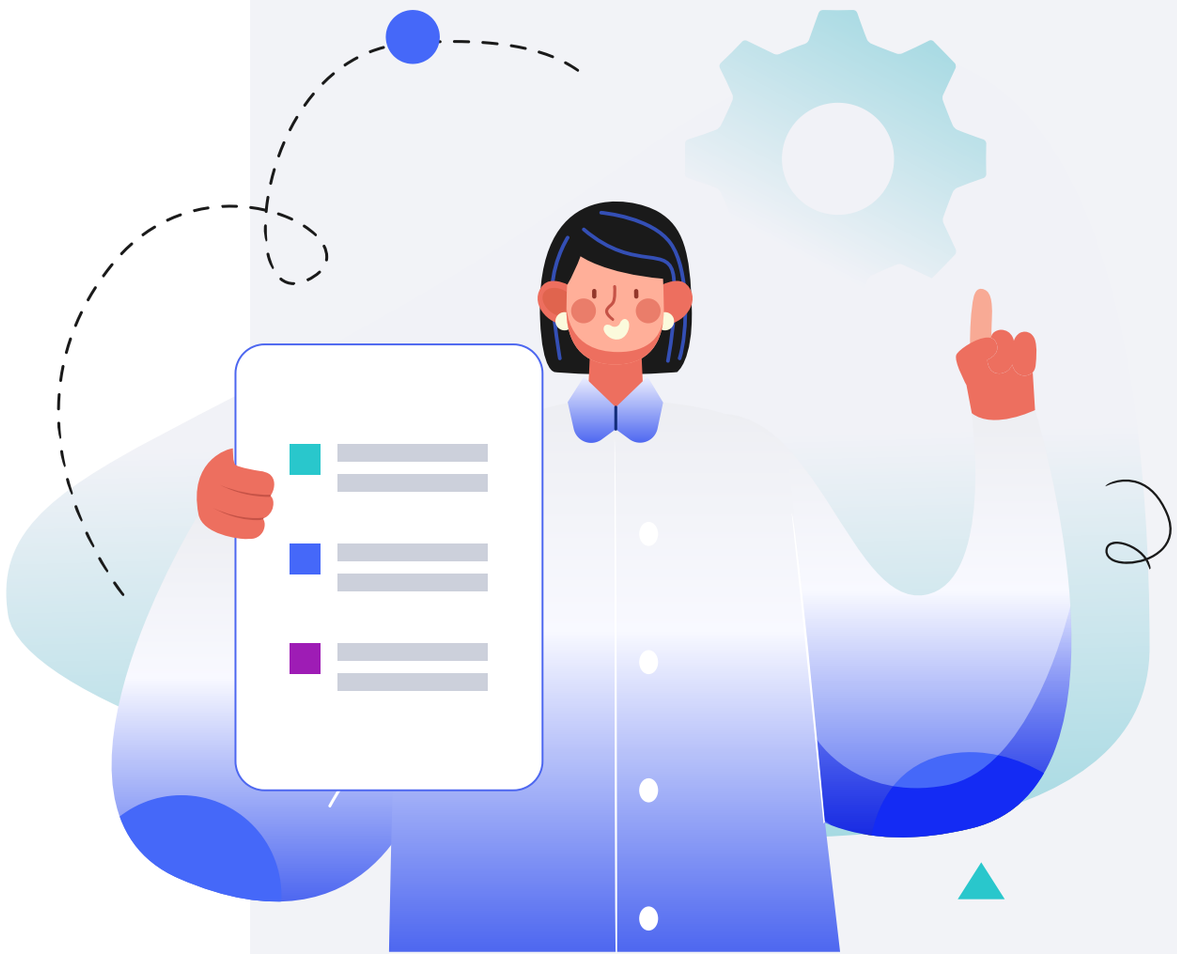
Male

HEIGHT

5ft 9" 175.0cm

WEIGHT

165lb 75.0kg



DISCLAIMER

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

Introduction

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
1	Probiotics	10 billion
2	Coffee	
3	BCAAs (Branched-Chain Amino Acids)	5 g
4	L-Ornithine L-Aspartate	3 g
5	Avoid Air Pollution	
6	Avoid Aflatoxins	
7	Vitamin E	200 iu
8	DASH Diet	
9	Avoid Mycotoxin	
10	Milk Thistle (Silymarin)	300 mg
11	Maintain Optimal Vitamin D Levels	1000 iu
12	Mediterranean Diet	
13	Avoid Lead Exposure	
14	Avoid PFAS Exposure	
15	Turmeric	

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

Coffee

IMPACT 3 / 5

EVIDENCE 4 / 5

How to implement

Drink 1 to 3 cups of black coffee daily, preferably in the morning to minimize potential sleep disturbances. Avoid adding sugar or cream to keep it healthy. Continue this habit daily for long-term benefits.

Description

Coffee is a drink extracted from the roasted seeds (beans) of the coffee plant. Coffee consumption, in moderation, has been associated with potential health benefits, including improved alertness, cognitive function, and reduced risk of certain chronic diseases like Parkinson's and type 2 diabetes.

People drink coffee for an energy and mood boost. Caffeine is the main ingredient responsible for these effects [R, R].

Drinking moderate amounts of coffee may also [R, R, R]:

- Improve heart health
- Improve mood
- Help reduce blood sugar

How it helps

Drinking more coffee can protect your liver against scarring, especially if you have [R, R, R, R, R, R]:

- Fatty liver (up to 50% lower risk)
- Hepatitis C (up to 2 times lower risk)

Moderate coffee drinkers have a **50% lower risk of cirrhosis**. Drinking more coffee can cut the risk in half [R, R].

Please note: *Too much caffeine (over 400 mg per day) may lead to sleep problems, high blood pressure and cholesterol, fast heart rate, and dependence. If you're pregnant, try to limit caffeine to 200 mg per day* [R, R].

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

3

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 [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].

4

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].

5

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

6

Avoid Aflatoxins

IMPACT 2 / 5

EVIDENCE 2 / 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].

7

Vitamin E

IMPACT 2 / 5

EVIDENCE 2 / 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].

8

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].

9

Avoid Mycotoxin

IMPACT 2 / 5

EVIDENCE 2 / 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.

10

Milk Thistle (Silymarin)

IMPACT 2 / 5

EVIDENCE 2 / 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].

11

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.

12

Mediterranean Diet

IMPACT 1 / 5

EVIDENCE 2 / 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].

13

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].

14

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.

15

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].