



Varicose Veins

DNA Health Report

REPORT CATEGORY —



HEART & BLOOD
VESSELS

Sample Client

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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

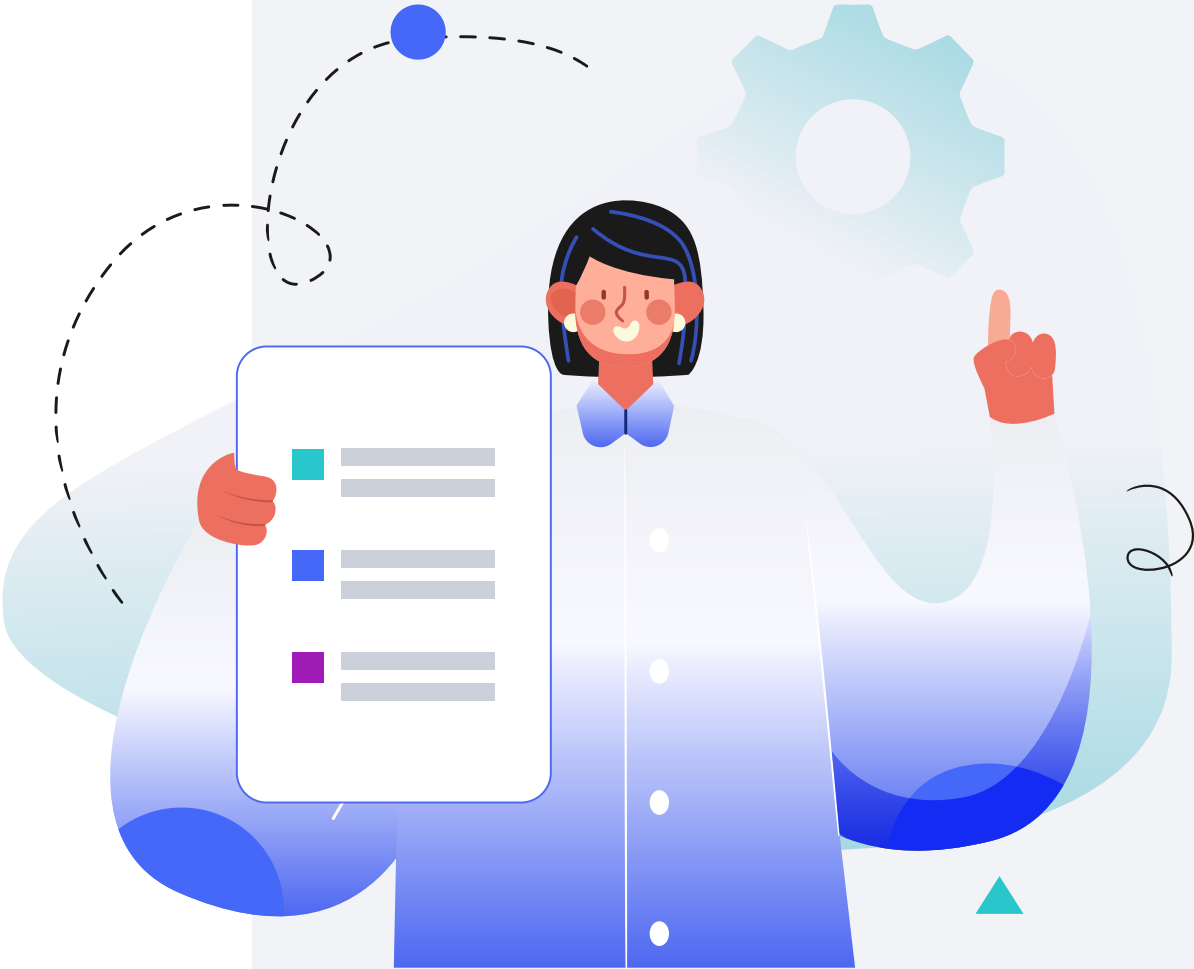
Male

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

There are two major misconceptions when it comes to varicose veins: they only occur when you’re older and they only occur in the legs. Both of these statements are false.

Varicose veins can affect anyone, at any age (even celebrities). Pop star Britney Spears famously developed varicose veins after her pregnancies [\[R\]](#).

No matter who you are, one fact remains. Varicose veins can leave you feeling self-conscious. For some people, they may even cause a lot of pain and discomfort [\[R\]](#).

The best way to lower your risk of varicose veins is to avoid doing things that are bad for your blood vessel health. But that can be tricky in modern-day life!

Take working in an office, for example. More often than not, you can find yourself thinking, “Oops, I did it again – I sat for too long!” Sitting for prolonged periods of time is a major risk factor for varicose veins [\[R\]](#).

Some people may be at a greater risk of varicose veins than others due to their genetics [\[R\]](#).

While this may be frustrating, the good news is that if you can identify which of your genes are contributing to your risk of developing varicose veins, you can take targeted action to potentially counteract their negative effects.

For example, if you carry a particular variant of the [PPP3R1](#) or [GATA2](#) genes, you may be at an increased risk of varicose veins and vein inflammation. As a result, you may particularly benefit from diosmin supplements, which may help reduce blood vessel inflammation [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Read on to find out more about:

- **How your genetics play a role in varicose veins**
- **Your genetic risk score based on over 85,000 genetic variants**
- **Personalized recommendations based on your genetics**

About Varicose Veins

Key Takeaways:

- Up to **30%** of differences in people's chances of developing varicose veins may be due to genetics. Up to **1 in 3** people over the age of 70 may have varicose veins.
- Risk factors include: age, being female, overweight, sitting or standing most of the day, pregnancy, and childbirth.
- If you have a high genetic risk, you may reduce overall risk by taking action on risk factors that you can change.
- Click the **next steps** tab for relevant labs and lifestyle factors.

Normal, healthy veins have many valves that keep the blood flowing in the right direction. Over time or as a result of physical stress, these valves can become damaged. Damaged valves allow the blood to flow backwards or pool. This is called **venous reflux**, or **chronic venous insufficiency** [R, R, R].

Chronic venous insufficiency is a major cause of **varicose veins**. These are swollen veins that lie just under the skin. They may twist or bulge and appear purple or blue in color. They usually develop in the legs but can affect other parts of the body as well [R, R, R].

Chronic venous insufficiency may also cause [R, R]:

- Swelling, due to a buildup of fluid in the limbs (*edema*)
- Open wounds on the skin (*venous ulcers*)
- Itchy skin
- Pain

Chronic vein problems are more common in older people. In fact, up to **1 in 3 people** over the age of 70 may have varicose veins [R, R].

Besides age, risk factors for chronic vein problems include [R, R, R]:

- Female sex



MORE LIKELY

More likely to have varicose veins based on **81,137** genetic variants we looked at



Your risk is greater than 99% of the population and lower than 1% of the population.

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
FKBP10	rs550216862	GG
NELFCD	rs76602912	TT
ARID5B	rs3740357	TT
SLC12A2	rs6860245	CC
RAB7A	rs13325550	CC
/	rs4561414	GG
WDR92	rs7569914	GG
UBE2H	rs17559301	TT
TNFSF8	rs10817784	GG
SOX7	rs75731123	AA
HLA-G	rs2524005	GG
UNC5B	rs7086901	CC
DAOA	rs1549061	CC
PARK7	rs7524424	TT
RREB1	rs675209	CC
CPNE3	rs62512472	AA
EDN1	rs111797764	TC
SRPX	rs35318931	G
ITGA6	rs10169716	CT
SRL	rs4786476	AA
SBF2	rs1372809	GG
SLC38A2	rs4768737	TT
C20ORF20 4	rs6062618	TG

- Overweight or obesity
- Pregnancy and childbirth
- Sitting or standing for most of the day
- **Genetics**

Ways to manage chronic vein problems include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Keeping the legs elevated
- Lifestyle adjustments (e.g., avoiding sitting or standing for long periods, managing weight)
- Compression therapy (using stockings or bandages)
- Laser-based or injectable treatments
- Surgery

The risk of developing chronic vein problems can depend on genes. For example, up to 30% of differences in people's chances of developing varicose veins may be attributed to genetics. Genes involved in varicose veins may influence [\[R\]](#):

- Blood vessel function ([CASZ1](#), [STIM2](#))
- Blood flow ([CASZ1](#), [PIEZO1](#), [EBF1](#))
- Immune response ([PPP3R1](#), [GATA2](#), [NFATC2](#))
- Blood iron levels ([HFE](#))

GENE	SNP	GENOTYPE
SVBP	rs58062906	CT
NFIL3	rs6479353	AG
SGK1	rs228433	GA
NDP	rs5906307	G
NEK8	rs199933041	GG
NFATC2	rs12625547	GG
HDAC7	rs56389811	CC
CDC42SE2	rs2189759	GG
DOCK8	rs78216177	GG
CLDN11	rs496104	GG
ADAM15	rs11589479	GG
ATF1	rs10783387	CC
TMEM87B	rs4849007	CC
PRKAR1B	rs9719461	CC

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	Reduce Leg Strain	2	Diosmin
3	Aerobic Exercise (Cardio)1 hour	4	Walking30 minutes
5	Bioflavonoids	6	Horse Chestnut
7	Compression Therapy	8	Exercise At Least One Hour a Day1 hour
9	Oxerutins1000 mg	10	Practice Exercise Snacks1 minutesute
11	Compression Stockings	12	Pycnogenol100 mg
13	Kinesio Taping	14	Butcher's Broom7 mg
15	Red Vine Leaf Extract360 mg	16	Bath Therapy20 minutes
17	Gotu Kola	18	Rutin
19	Grape Seed Extract100 mg	20	Myofascial Release Therapy and Kinesiotherapy20 minutes
21	Blackcurrant Supplement	22	Buckwheat
23	Dietary Zinc	24	Avoid Iron Supplements (Unless Deficient)

1



Reduce Leg Strain

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Avoid standing or sitting in one position for prolonged periods. Every hour, make a point to stand if you've been sitting, or sit or walk if you've been standing, for at least 5-10 minutes. Incorporate leg stretches or gentle exercises into your daily routine, especially if your job involves long periods of sitting or standing.

Description

Leg strain is caused by too much pressure being placed on the legs. Reducing leg strain involves avoiding overexertion and implementing proper techniques during physical activities, as well as wearing properly fitted clothing. It can help prevent muscle fatigue and promote overall leg strength.

Leg strain is caused by too much pressure being placed on the legs. Examples of things that can lead to leg strain include [\[R\]](#):

- Wearing clothing that’s too tight
- Standing or sitting for long periods of time
- Excess weight

Leg strain can block the flow of blood from the legs to the heart. This can lead to varicose veins [\[R\]](#), [\[R\]](#).

People with certain professions may be more prone to leg strain and varicose veins. This may be because their professions require them to stand for longer periods of time. These include:

- Nurses [\[R\]](#), [\[R\]](#)
- Customer service workers (e.g., hairdressers, salespeople, caterers) [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Teachers [\[R\]](#)

How it helps

Leg strain is linked to varicose veins. Some things that may cause leg strain and increase the risk of varicose veins include:

- Excess weight [\[R\]](#), [\[R\]](#)
- Prolonged standing [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- Lifting heavy objects [\[R\]](#), [\[R\]](#), [\[R\]](#)

Being overweight or obese may also slow wound healing. This may increase the risk of open sores on the legs [\[R\]](#), [\[R\]](#), [\[R\]](#).

To reduce leg strain, experts recommend [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Maintaining a healthy weight
- Avoiding long periods of sitting or standing
- Avoiding high heels and clothes that are tight on the waist, legs, or groin
- Elevating the legs for 30 minutes, multiple times per day

Reducing leg strain may help with varicose veins by [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reducing pressure on the legs
- Improving blood flow



PERSONALIZED TO YOUR GENES

Your **SEC16B** gene variant is linked to higher odds of obesity [R]. Try maintaining a healthy weight to improve varicose veins.

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
SEC16B	rs539515	CA	

2



Diosmin

IMPACT

3 / 5

EVIDENCE

4 / 5

How to implement

Take 500mg of diosmin in supplement form once daily, ideally with a meal to help with absorption. This should be continued for a minimum of 3 months to assess its effectiveness, especially for conditions like chronic venous insufficiency or hemorrhoids.

Description

Diosmin is a flavonoid found in citrus fruits and is commonly used in supplements for its potential to improve blood vessel health and reduce the risk of conditions like varicose veins and hemorrhoids.

Diosmin is an antioxidant compound (flavonoid) typically found in the peels of citrus fruits [\[R\]](#).

A special form of diosmin with very small particles is commonly found in supplements. It can be combined with **hesperidin** and other flavonoids to make **micronized purified flavonoid fraction (MPFF)** [\[R\]](#).

Products containing diosmin, such as MPFF, may help with blood vessel problems. In certain countries, they are available as over-the-counter medications [\[R, R\]](#).

How it helps

Diosmin (1,000 mg MPFF/day for 2-6 months) may help improve symptoms of chronic vein problems, including [\[R, R, R, R\]](#):

- Leg cramps and pain
- Leg swelling
- Feelings of leg heaviness

It may also help heal open sores and improve varicose veins when used in combination with other treatments, such as compression therapy [\[R, R, R\]](#).

Diosmin may support blood vessel health by [\[R, R\]](#):

- Reducing oxidative stress and inflammation
- Improving blood vessel strength and elasticity

 PERSONALIZED TO YOUR GENES

Your **PPP3R1** gene variant is linked to higher odds of varicose veins. This gene plays a role in inflammation. Diosmin may help by reducing blood vessel inflammation [\[R, R, R, R\]](#).

Your **GATA2** gene variant is linked to higher odds of varicose veins. This gene plays a role in inflammation. Diosmin may help by reducing blood vessel inflammation [\[R, R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
WDR92	rs2861819	CC	
GENE	SNP	GENOTYPE	EVIDENCE
RAB7A	rs7614922	CG	

3



Aerobic Exercise (Cardio)

IMPACT3 / 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

Regular exercise (including cardio) may prevent varicose veins from developing [\[R\]](#).

Experts recommend getting more exercise to help prevent and improve varicose veins. Walking more may be a good option [\[R, R, R, R\]](#).

Exercise may also help in combination with compression therapy. These two strategies may reduce chronic vein problems and improve quality of life. They may also help heal skin wounds [\[R, R, R\]](#).

However, the benefits of exercise for chronic vein problems need more research [\[R, R\]](#).

Exercise may help by promoting blood flow in the legs [\[R, R, R, R, R\]](#).

4



Walking

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

How it helps

Regular exercise may prevent varicose veins from developing [\[R\]](#).

Experts recommend getting more exercise to help prevent and improve varicose veins. Walking more may be a good option [\[R, R, R, R\]](#).

Exercise may help by promoting blood flow in the legs [\[R, R, R, R, R\]](#).

5



Bioflavonoids

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take bioflavonoid supplements with water, typically once or twice daily or as directed by the product label or your healthcare provider. It is often recommended to consume these supplements with a meal to enhance absorption.

Description

Bioflavonoids are a group of plant compounds found in colorful fruits and vegetables. They are known for their antioxidant properties, which can help protect cells from oxidative damage and support overall health when included in a balanced diet.

How it helps

Diosmin (1,000 mg MPFF/day for 2-6 months) may help improve symptoms of chronic vein problems, including [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Leg cramps and pain
- Leg swelling
- Feelings of leg heaviness

It may also help heal open sores and improve varicose veins when used in combination with other treatments, such as compression therapy [\[R\]](#), [\[R\]](#), [\[R\]](#).

Oxerutins (1-2 g/day for up to 8 weeks) may help reduce leg swelling [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Bioflavonoids may support blood vessel health by [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reducing oxidative stress and inflammation
- Improving blood vessel strength and elasticity

6



Horse Chestnut

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Incorporate horse chestnut supplements into your lifestyle by taking one 300mg capsule of horse chestnut seed extract daily, ideally with meals to improve absorption. This regimen is recommended for managing symptoms of chronic venous insufficiency, such as varicose veins, for a period of up to 12 weeks.

Description

Horse chestnut extract is sometimes used as a natural remedy for improving venous circulation and reducing symptoms of conditions like varicose veins and chronic venous insufficiency. Its active compounds may help strengthen blood vessel walls and reduce swelling.

Horse chestnut extracts are made from the leaves or seeds of the horse chestnut tree (*Aesculus hippocastanum*). This tree is native to parts of southeastern Europe [\[R, R\]](#).

Escin is an anti-inflammatory compound found in horse chestnut extracts. These extracts may help with [\[R, R\]](#):

- Circulation in the legs
- Irritable bowel syndrome (IBS)
- Male infertility

How it helps

Horse chestnut extracts (100-150 mg escin/day for 2-12 weeks) may improve leg pain and swelling in people with chronic vein problems [\[R, R, R\]](#).

Horse chestnut can be used along with compression therapy. This combination may help heal open skin sores on the legs [\[R, R\]](#).

Horse chestnut may help by reducing inflammation [\[R, R\]](#).

 PERSONALIZED TO YOUR GENES

Your ***PPP3R1*** gene variant is linked to higher odds of varicose veins. This gene plays a role in inflammation. Horse chestnut may help by reducing blood vessel inflammation [\[R, R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
WDR92	rs2861819	CC	

7



Compression Therapy

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Wear compression stockings or sleeves daily, especially during long periods of standing or sitting. Choose a compression level appropriate for your condition (mild, moderate, or high), as advised by a healthcare professional. Start wearing them in the morning before swelling occurs and keep them on until bedtime.

Description

Compression therapy involves wearing specialized garments that apply pressure to the limbs, promoting better circulation and reducing swelling. It is commonly used to manage conditions like venous disorders and can help alleviate symptoms, improve vascular health, and enhance overall well-being.

In compression therapy, different methods are used to apply pressure to the legs. These methods include [\[R\]](#):

- Bandages
- Wraps
- Compression stockings
- Pneumatic pressure devices

Compression therapy supports blood flow. It may help [\[R, R, R\]](#):

- Prevent blood clots and deep vein thrombosis (DVT)
- Reduce some kinds of swelling
- Reduce symptoms of restless legs syndrome

How it helps

Compression therapy may help improve pain and leg swelling in people with chronic vein problems. It may also help heal open skin sores. Types of compression therapy that may help include [\[R, R, R, R, R, R, R\]](#):

- Kinesio Taping (special taping method to help support muscles and tendons)
- Compression bandages or stockings

Compression therapy may also help when combined with exercise [\[R, R\]](#).

Experts often recommend compression stockings as the first step to managing varicose veins [\[R, R, R\]](#).

However, there isn’t much evidence to support their use for this purpose. They may only help heal and prevent open skin sores. Stockings with medium compressive ability (class II) may be best [\[R, R, R, R, R, R, R, R, R\]](#).

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

- Improving blood vessel function
- Boosting blood flow in the legs
- Supporting muscle function in the legs

Please note: *Be sure to get compression stockings that are specially designed to improve circulation. They put the most pressure around the ankles and get looser as they approach the waist. Compression stockings differ from restrictive pants or leggings, which fit tight throughout and block normal blood flow* [\[R\]](#).

8



Exercise At Least One Hour a Day

IMPACT

3 / 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

Regular exercise may prevent varicose veins from developing [\[R\]](#).

Experts recommend getting more exercise to help prevent and improve varicose veins. Walking more may be a good option [\[R, R, R, R\]](#).

Exercise may also help in combination with compression therapy. These two strategies may reduce chronic vein problems and improve quality of life. They may also help heal skin wounds [\[R, R, R\]](#).

However, the benefits of exercise for chronic vein problems need more research [\[R, R\]](#).

Exercise may help by promoting blood flow in the legs [\[R, R, R, R, R\]](#).

9



Oxerutins

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take 1,000 mg of oxerutins daily, divided into two doses of 500 mg each, one in the morning and one in the evening. Continue this regimen for at least 3 to 4 weeks to assess its effects on your condition.

TYPICAL STARTING DOSE
1000 mg

Description

Oxyrutin, also known as rutin or rutoside, is a bioflavonoid found in various fruits and vegetables, such as apples, citrus fruits, buckwheat, and onions. It has antioxidant and anti-inflammatory properties, and is available as a supplement in some countries for its benefits toward blood vessel health and conditions like varicose veins.

Rutin is an antioxidant found in plants such as passionflower, buckwheat, tea, apple, and citrus fruits. It’s also called rutoside [\[R\]](#), [\[R\]](#).

Oxerutins are compounds made from rutin. In certain countries, they are available as over-the-counter medication to help with chronic vein problems [\[R\]](#), [\[R\]](#).

How it helps

Oxerutins (1-2 g/day for up to 8 weeks) may help reduce leg swelling [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Oxerutins may help protect the veins by improving blood flow and reducing oxidative stress [\[R\]](#), [\[R\]](#).

10



Practice Exercise Snacks

IMPACT3 / 5

EVIDENCE3 / 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

Regular exercise may prevent varicose veins from developing [\[R\]](#).

Experts recommend getting more exercise to help prevent and improve varicose veins. Walking more may be a good option [\[R, R, R, R\]](#).

Exercise may help by promoting blood flow in the legs [\[R, R, R, R, R\]](#).

11



Compression Stockings

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Wear compression stockings during the day, especially when you expect to be sitting or standing for long periods. They should be put on before getting out of bed in the morning and removed before going to bed at night. Ensure they are the correct size and compression level as advised by a healthcare professional.

Description

Compression stockings are often worn to improve blood circulation in the legs and reduce the risk of conditions like varicose veins and deep vein thrombosis. They can be beneficial for individuals who spend long periods sitting or standing and those with certain medical conditions that affect blood flow.

How it helps

Compression therapy such as compression stockings may help improve pain and leg swelling in people with chronic vein problems. It may also help heal open skin sores [\[R, R, R, R, R, R, R\]](#).

Compression therapy may also help when combined with exercise [\[R, R\]](#).

Experts often recommend compression stockings as the first step to managing varicose veins [\[R, R, R\]](#).

However, there isn’t much evidence to support their use for this purpose. They may only help heal and prevent open skin sores. Stockings with medium compressive ability (class II) may be best [\[R, R, R, R, R, R, R, R, R\]](#).

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

- Improving blood vessel function
- Boosting blood flow in the legs
- Supporting muscle function in the legs

Please note: Be sure to get compression stockings that are specially designed to improve circulation. They put the most pressure around the ankles and get looser as they approach the waist. Compression stockings differ from restrictive pants or leggings, which fit tight throughout and block normal blood flow [\[R\]](#).

12



Pycnogenol

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

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

TYPICAL STARTING DOSE
100 mg

Description

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

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

It may improve [R, R, R, R, R, R]:

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

How it helps

Pycnogenol may help improve varicose veins and other chronic vein problems. However, one study didn’t find a benefit for varicose veins [R, R, R].

Supplementing with **pycnogenol (100-150 mg/day for 3-6 months)** may reduce leg swelling. It may also help heal open skin sores on the legs [R, R, R].

Pycnogenol may help by [R, R, R]:

- Supporting normal blood vessel function
- Increasing blood flow
- Reducing oxidative stress

 PERSONALIZED TO YOUR GENES

Your **STIM2** gene variant is linked to higher odds of varicose veins. This gene likely affects blood vessel function. Pine bark extract may help by supporting blood vessel function [R, R, R, R, R].

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
STIM2	rs28558138	GG	

13

Kinesio Taping

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

Apply kinesio tape directly to the skin over the affected muscle or joint area. The tape should be stretched slightly to create tension after being applied over the pre-cleaned skin. Typically, kinesio tape can be worn for 3 to 5 days, including during showering, before it needs to be replaced.

Description

Kinesio taping involves the application of special tape to support injured muscles and joints. It can help reduce pain, improve circulation, and enhance overall mobility when used correctly.

Kinesio Taping is a physical therapy technique that uses special tapes to help support muscles and tendons. People use Kinesio Taping to help with [R](#), [R](#):

- **Musculoskeletal injuries**
- Swelling due to lymph fluid buildup (lymphedema)
- Muscle stiffness

How it helps

Compression therapy such as Kinesio taping may help improve pain and leg swelling in people with chronic vein problems. It may also help heal open skin sores [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#).

Compression therapy may also help when combined with exercise [R](#), [R](#).

Compression therapy may help by [R](#), [R](#), [R](#):

- Improving blood vessel function
- Boosting blood flow in the legs
- Supporting muscle function in the legs

Please note: *Be sure to get compression stockings that are specially designed to improve circulation. They put the most pressure around the ankles and get looser as they approach the waist. Compression stockings differ from restrictive pants or leggings, which fit tight throughout and block normal blood flow* [R](#).

14



Butcher's Broom

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a supplement containing 7-11 mg of ruscogenin, the active compound in butcher's broom, daily. This dosage is typically found in 150-300 mg of butcher's broom extract, and you should take it for at least one month to evaluate its effectiveness for circulatory issues.

TYPICAL STARTING DOSE

7 mg

Description

Butcher's broom is an herbal remedy used in traditional medicine for its potential to support vascular health and improve circulation. It contains compounds that may help reduce the appearance of varicose veins and promote overall cardiovascular well-being.

Butcher’s broom (*Ruscus aculeatus*) is a bushy shrub. Its root is used to promote blood vessel health and urination [\[R, R\]](#).

How it helps

Butcher’s broom extract may improve symptoms of chronic vein problems. It’s mainly used in combination with hesperidin and vitamin C. Butcher’s broom may improve [\[R, R, R, R\]](#):

- Pain
- Heaviness or tingling in the legs
- Leg swelling

Butcher’s broom may help by increasing blood vessel strength in the legs [\[R, R\]](#).

15



Red Vine Leaf Extract

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a red vine leaf extract supplement, usually available in capsule or tablet form, at a dose of 360-720 mg daily. This can be divided into two doses taken with meals to improve absorption. Continue this regimen for a period of 3-12 weeks to observe benefits, especially for chronic venous insufficiency symptoms.

TYPICAL STARTING DOSE

360 mg

Description

Red vine (*Vitis vinifera*) leaf extract is derived from the leaves of the red vine. It has been traditionally used in herbal medicine, particularly in Europe, for its potential benefits in improving circulation and reducing symptoms associated with chronic venous insufficiency (CVI), such as leg swelling and pain. Red vine leaf extract is rich in various bioactive compounds, including flavonoids and polyphenols.

Red vine leaf extract is made from the leaves of the red grape vine plant. It has anti-inflammatory and antioxidant properties [R].

People use it to potentially improve circulation and blood vessel health [R].

How it helps

Supplementing with **red vine leaf extract (360-720 mg for 6-12 weeks)** may help with chronic vein problems. It may improve symptoms like swelling, heaviness, and pain in the legs. However, not all studies found these benefits [R, R, R].

Red vine leaf extract may help by supporting normal blood vessel function and improving blood flow [R, R].

 PERSONALIZED TO YOUR GENES

Your **SLC12A2** gene variant is linked to higher odds of varicose veins. This gene likely affects blood flow. Red vine leaf extract may help by improving blood flow in the legs [R, R, R].

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
SLC12A2	rs3101725	TT	

16



Bath Therapy

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Submerge in a warm water bath, ideally between 92-100°F (33-38°C), for 15-20 minutes, three to four times a week. Avoid using very hot water to prevent skin dryness.

TYPICAL STARTING DOSE

20 minutes

Description

Balneotherapy (balneum, “bath” in Latin) is a type of therapy that involves using **water with minerals and salts**. The water used for balneotherapy is **at least at 20°C** and has a **mineral content of at least 1g/L**. Balneotherapy includes bathing in natural springs, mineral baths, or swimming pools with mineral-rich water

Balneotherapy (balneum, “bath” in Latin) is a type of therapy that involves using **water with minerals and salts**. The water used for balneotherapy is **at least at 20°C** and has a **mineral content of at least 1g/L**. Balneotherapy includes bathing in natural springs, mineral baths, or swimming pools with mineral-rich water [\[R\]](#), [\[R\]](#).

Waters for balneotherapy contain a mixture of organic and inorganic compounds, such as hydrogen sulfide (H2S) [\[R\]](#), [\[R\]](#).

People use balneotherapy to help with [\[R\]](#), [\[R\]](#):

- Joint and back pain
- Fibromyalgia
- Skin conditions (e.g., psoriasis)

How it helps

Bath therapy may help reduce chronic vein problems. However, it may not help with open skin sores [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

17



Gotu Kola

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a Gotu Kola supplement, available in capsule or powder form, daily. Dosages typically range from 500mg to 2000mg daily, divided into two or three doses. It's recommended to start with the lower dose to assess tolerance and then increase if necessary. Continue for 4 to 6 weeks to evaluate the benefits.

Description

Gotu kola is an herb used in traditional medicine for its potential to improve cognitive function, reduce inflammation, and support skin health.

[Gotu kola](#) or Pennywort (*Centella asiatica*) is an herb used in Tai-Chi tradition and Ayurvedic and Chinese Traditional Medicine.

Gotu kola is used as an antioxidant and anti-inflammatory. Traditional uses include:

- Wound healing [\[R\]](#).
- Improving leg circulation [\[R\]](#)

How it helps

In 6 placebo-controlled trials of over 300 patients with venous hypertension, supplementation with the total triterpenic fraction of gotu kola (60-180 mg/day) for 4-8 weeks improved capillary filtration rate, ankle and leg circumference, ankle edema time, flux at rest, venoarterial response, PO2, and PCO2. A dose of 180 mg/day was most effective. [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Titrated extract of gotu kola (60-120 mg/day) taken for 2 months improved lower-leg heaviness, swelling, venous distensibility, and overall self-evaluation in a placebo-controlled trial of 94 patients with venous insufficiency of the lower limbs [\[R\]](#).

Gotu kola may help by improving blood circulation and strengthening the walls of blood vessels. Its ability to promote collagen production can also help in repairing damaged veins.

18



Rutin

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 500mg of rutin supplement daily, preferably with a meal to enhance absorption. Continue this supplementation regularly for at least 4 weeks to evaluate its benefits on your health, as effects may take some time to become noticeable.

Description

Rutin is a flavonoid found primarily in citrus fruits, buckwheat, and tea, and is known for its antioxidant and anti-inflammatory properties. It may support cardiovascular health and promote strong blood vessels.

How it helps

Oxerutins (1-2 g/day for up to 8 weeks) may help reduce leg swelling [\[R, R, R, R, R, R, R\]](#).

Oxerutins may help protect the veins by improving blood flow and reducing oxidative stress [\[R, R\]](#).

Please note: rutin may inhibit the production of the thyroid hormone T4 (thyroxine). Individuals with thyroid disorders, particularly hypothyroidism or low T4 levels, should exercise caution when using rutin and always consult with a healthcare provider before taking this supplement [\[R\]](#).

19



Grape Seed Extract

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100-300 mg of grape seed extract daily, preferably with a meal to enhance absorption. This can be done either through a single dose or split into multiple doses throughout the day. Continue this regimen for at least 3 months to observe potential benefits.

TYPICAL STARTING DOSE

100 mg

Description

Grape seed extract is rich in antioxidants called polyphenols, which may help protect against oxidative stress and support cardiovascular health. It's also believed to have potential benefits for skin health and overall well-being.

[Grape seed extract](#) is made from the seeds of wine grapes. It contains antioxidant compounds that may help support [\[R\]](#), [\[R\]](#):

- Blood circulation
- Heart health
- Blood sugar control
- Healthy weight

How it helps

In a non-placebo-controlled trial of 303 patients with chronic venous insufficiency, supplementation with grape seed extract for 8 weeks was as effective as the micronized purified flavonoid fraction at improving the symptoms and quality of life [\[R\]](#).

Antioxidants in grape seed extract may help strengthen the connective tissue structure of blood vessels and reduce inflammation.

20



Myofascial Release Therapy and Kinesiotherapy

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Schedule a myofascial release therapy session with a qualified therapist once a week for at least 4-6 weeks. Additionally, incorporate kinesiotherapy exercises into your daily routine, dedicating 20-30 minutes each day to these exercises under the guidance of a kinesiotherapy professional or through reputable online resources.

TYPICAL STARTING DOSE

20 minutes

Description

Myofascial release therapy and kinesiotherapy can help improve circulation, reduce pain, improve range of motion, and reduce the appearance of varicose veins.

How it helps

In a non-placebo-controlled trial of 65 postmenopausal women with venous insufficiency, the combination of myofascial release in the lower limbs (daily, 20 sessions) with kinesiotherapy improved venous return blood flow, pain, and quality of life [\[R\]](#).

Myofascial release therapy may help by improving blood flow and reducing pressure on the veins, helping to decrease swelling and discomfort.

21



Blackcurrant Supplement

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a blackcurrant supplement containing 300mg of blackcurrant extract daily, preferably with a meal to enhance absorption. Continue this regimen for at least 8 weeks to observe potential benefits.

Description

Blackcurrant supplements are often used to harness the health benefits of blackcurrants in a convenient form. They can provide a concentrated source of antioxidants and nutrients that support various aspects of well-being.

Black currant oil contains between 150-200mg of GLA per gram.

How it helps

In a study of 2295 women with vein insufficiency worsened by oral contraceptives, supplementation with blackcurrant extract for 24 weeks significantly reduced the symptoms [\[R\]](#).

Blackcurrant supplements may help by enhancing blood flow and reducing inflammation, owing to their high content of anthocyanins.

22



Buckwheat

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate buckwheat into your diet by adding it to meals 2-3 times per week. You can use buckwheat flour for pancakes or bread, include buckwheat groats in soups, salads, or as a side dish instead of rice or pasta.

Description

Buckwheat is a gluten-free whole grain that provides essential nutrients, including protein, fiber, and minerals. It can contribute to heart health, digestive regularity, and balanced nutrition.

How it helps

In a placebo-controlled trial of 67 patients with chronic venous insufficiency, drinking buckwheat tea for 3 months prevented further leg swelling [\[R\]](#).

Buckwheat is high in rutin, a bioflavonoid that strengthens the veins.

23



Dietary Zinc

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods high in zinc, such as beef, poultry, seafood (especially oysters), beans, nuts, and whole grains, into your daily diet. Aim for the recommended dietary allowance of zinc, which is 11 mg per day for adult men and 8 mg per day for adult women.

Description

Dietary zinc is essential for the body. It helps our immune system fight off bacteria and viruses, plays a role in healing wounds, and is essential for our sense of taste and smell. Without enough zinc, these systems may not work as effectively as they should.

How it helps

Genetically higher levels of zinc may be associated with a reduced risk of varicose veins [\[R\]](#).

24



Avoid Iron Supplements (Unless Deficient)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Only take iron supplements if a blood test shows you are iron deficient. If not deficient, do not use iron supplements. For those diagnosed with iron deficiency, follow your healthcare provider's instructions on the type and dosage of iron supplement to take.

Description

[Iron](#) (Fe) is an essential mineral. It helps make [hemoglobin](#), a protein that carries oxygen to cells. In this way, iron **increases energy** and supports **brain and immune system function** [\[R, R, R\]](#).

Avoiding unnecessary iron supplements, particularly without a confirmed deficiency, can prevent the risk of iron overload, which can lead to health issues like hemochromatosis and oxidative stress.

However, too much iron can be bad for the body. It can deposit into organs, such as the liver, heart and the pancreas. This can cause issues such as liver disease, heart problems and diabetes [\[R, R\]](#).

How it helps

Genetically higher levels of iron may be associated with a 28% greater risk for varicose veins [\[R, R\]](#).

Excess iron can thicken your blood, making it harder for your veins to push it upwards.

Please note: *Some people deficient in iron may need to take iron supplements. Your doctor should help you make that decision based on your actual iron levels.*

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 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.

