

Information about minimally-invasive vein therapy

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Healthy Legs

What are varicose veins and spider veins?

Varicose veins are a serious vein condition. The good news is, you can do something about them – without scars and without pain.

Common illness: Vein Disorders

More than half of all Europeans suffer from vein disorders.

Principles of Therapy

With every form of therapy the vein is either closed or removed. The problems disappear and the blood flows freely through the healthy deep vein system.

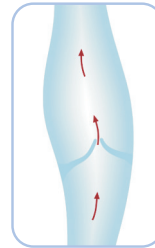


Veins transport about 7,000 litres of blood through the legs to the heart per day. Varicose veins occur when the venous valves no longer function. Blood flows only one way through these valves, towards the heart. If these veins become too wide, the valves no longer close correctly, the blood flow reverses and the blood pools. This causes pressure which widens the veins further, causing them to become varicose (see page 4).

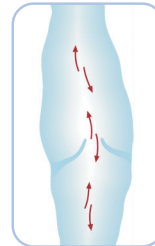
Spider veins are mostly an aesthetic problem on the surface of the skin. These fine nets of widened veins are rarely detrimental to your health, however, they could indicate the presence of varicose veins.

Why varicose veins develop:

- Long periods of standing or sitting
- Inherited connective tissue weakness
- Pregnancy
- Lack of exercise
- Obesity
- Thromboses



Healthy venous valves
The blood flows directly to the heart, as it should.



Unhealthy venous valves
The blood flow reverses and the blood pools. The pressure causes further widening of the vein.



How dangerous are varicose veins?

Untreated, varicose veins pose health risks:

Inflammation of the veins

A painful clot, obvious to the touch, which is in a vein close to the surface.

Thrombosis

The pooled blood can cause a clot in a deep vein. A thrombosis is a serious emergency.

Pulmonary embolism

A blood clot moves through the circulatory system and comes to a halt in the lung, blocking a blood vessel.

Leg ulcer (Ulcus)

The pooled blood causes bloated legs, a change of skin color, and eventually an ulcer develops.

Spider veins

These rarely cause problems. They can be treated for aesthetic reasons.

First signs of a vein disorder:

- Achy, itchy, or heavy-feeling legs
- Bloated legs
- Calf cramps
- Spider veins, for example on the inner ankle

Modern Examination

Through an examination the vein specialist can pinpoint vein disorders. Early diagnosis can prevent long-term damage.

We examine your vein system with the modern Duplex ultrasound, without contrast agents or pain. Your health insurance covers the costs of this sort of examination.

We inform you of your results in an in-depth consultation. According to your diagnosis and your personal wishes we will develop a treatment plan with you.

Prevention Tip

Better lying down & exercising than sitting & standing



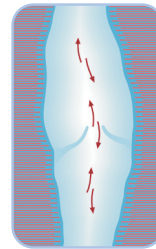
Lying down prevents blood from reversing and pooling. Exercising (i.e. running, walking, stair climbing) activates and trains the calf muscle pump, which supports the circulation.

Compression Therapy

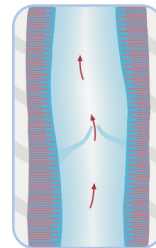
Compression therapy is a basic method of treatment. It can be effective alone or in combination with other therapies.

The principle of treatment:

Widened veins will be compressed by either bandages or compression stockings. The venous valves function properly again and support the transport of the blood to the heart.



Without compression
The venous valves do not close correctly: the blood flow reverses and the blood pools.



With compression
The pressure narrows the diameter of the veins: the venous valves close properly again.



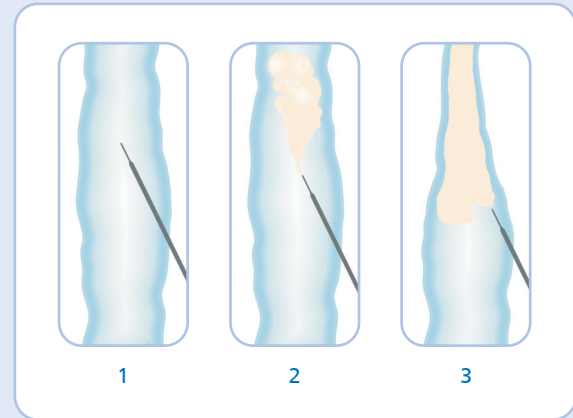
Sclerotherapy

When can this method be used?

Every form of varicose vein can be treated with this therapy. It works especially well for the removal of spider veins (micro-sclero). With the new ultrasound-guided foam sclerotherapy, larger or deeper varicose veins can also be treated very effectively.

How does this therapy work?

After a small needle puncture, the sclerotherapy solution (liquid for liquid sclerotherapy, foam for foam sclerotherapy) is injected into the varicose vein. The vein walls stick together, the vein becomes non-functional and turns into scar tissue, which disappears over time. The vein system improves.



What should you do after sclerotherapy?

After each session you should walk around for 15 minutes. Avoid saunas and sunbathing for two weeks. Wear compression bandages if the doctor recommends it.

Are spider veins only an aesthetic concern?

Yes. Spider veins can, however, indicate the presence of varicose veins especially when they occur on the inner ankle and the sides of the feet.

Do treated spider veins come back?

Mostly the treatment is effective. Because of an inherited tendency to spider veins new ones sometimes present themselves. Through periodical sclerotherapy you can keep your legs beautiful.

Should you treat spider veins with sclerotherapy or with laser treatment?

At the present time sclerotherapy is safer, less painful, and more affordable. With certain small vessels the use of modern lasers (i.e. the Neodym-Yag laser) makes sense.

Mini-Phlebectomy

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When can this method be used?

With this therapy, surface veins and bulging secondary veins of various sizes can be smoothly removed. For an optimal result this method is often combined with one of the other treatments.

How does this therapy work?

The varicose vein in question is marked while the patient is standing. Ultrasound and special lights help to map it. After local anesthesia a small puncture is made and the vein is removed with small hooks.

Should varicose veins be treated with sclerotherapy or removed with microsurgery?

For large surface varicose veins the mini-phlebectomy gives better aesthetic results; for deeper-lying varicose veins foam sclerotherapy gives better aesthetic results. A combination of both methods is often the best choice.

How can mini-phlebectomy produce scar-free results?

With microsurgery only 1-3mm punctures are required and the smallest possible hooks are used. Special bandages are used for optimal closing of the punctures; stitches are not necessary.

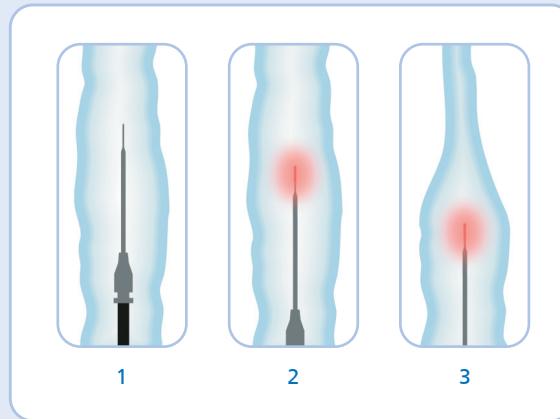
Laser Therapy (Endolaser)

When can this method be used?

The Endolaser is mostly used if a trunk vein is affected. Therefore this method is an alternative to the classical varicose vein operation (Stripping).

How does this therapy work?

The varicose veins are punctured under ultrasound as if blood was going to be taken. The doctor then pushes a laser fiber through the trunk vein to the main venous valve with a catheter. As it is pulled out, the heat of the laser closes the vein. The reversed blood flow is immediately stopped. The vein turns into scar tissue and disappears over time. The healthy veins again support the blood flow to the heart.



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What happens to the varicose vein?

The closed trunk vein shrinks to a thread of connective tissue and over time disappears completely.

Why is laser therapy less invasive than the classical vein operation (Stripping)?

Because of the catheter technique, scars and cuts are avoided. The trunk vein is closed from the inside. A general anesthesia is unnecessary. With stripping the trunk vein is pulled out, therefore a small operation in the groin or knee is necessary.

Radiofrequency Occlusion

When can this method be used?

This therapy is useful for the treatment of trunk veins. In the early stages of varicose veins, this therapy is very gentle. A compression is needed for only a few days after the treatment.

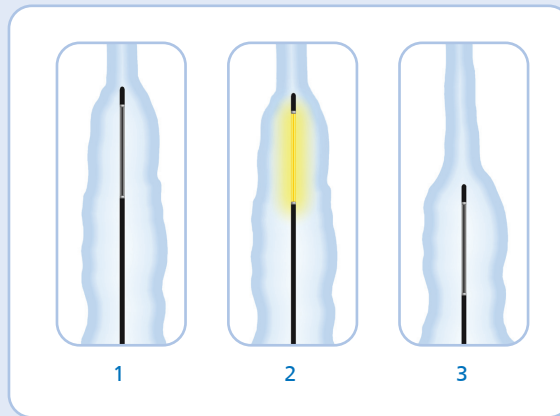
How does this therapy work?

The doctor inserts a one-use catheter through the trunk vein to the main venous valve. Radio waves heat the tip of the catheter to 85° C (185° F). The catheter is slowly pulled back and the heat closes the vein. The vein turns into scar tissue and disappears over time.

What is the difference between radiofrequency occlusion and laser therapy?

The methods are mostly similar. After an examination we will give you thorough details about the most effective method for you.

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Classic Vein Stripping

When can this method be used?

The classical vein stripping is useful for trunk veins, which are wide enough for the vein stripper to pass through.

How does this method work?

The groin or knee is opened with an operation. There the trunk vein is disconnected from the deep vein. Further branches are tied off. The doctor pulls the stripper through the trunk vein and ties it onto the other end of the varicose vein. The stripper is pulled out and the trunk vein is removed with it.

Can varicose veins which return still be treated after such an operation?

That depends on each case and on the results of the Duplex ultrasound examination. With large recurring varicose branches in the groin or knee a new operation can make sense. For many small recurring varicose branches in the knee the ultrasound-guided foam sclerotherapy is a good alternative.

How extensive is the stripping?

In many cases the operation can be done as an outpatient procedure but sometimes it requires a hospital stay. Usually general anesthesia is necessary, though in certain cases local anesthesia is possible. Plan for a sick leave of one to three weeks. Compression is required for four to six weeks.

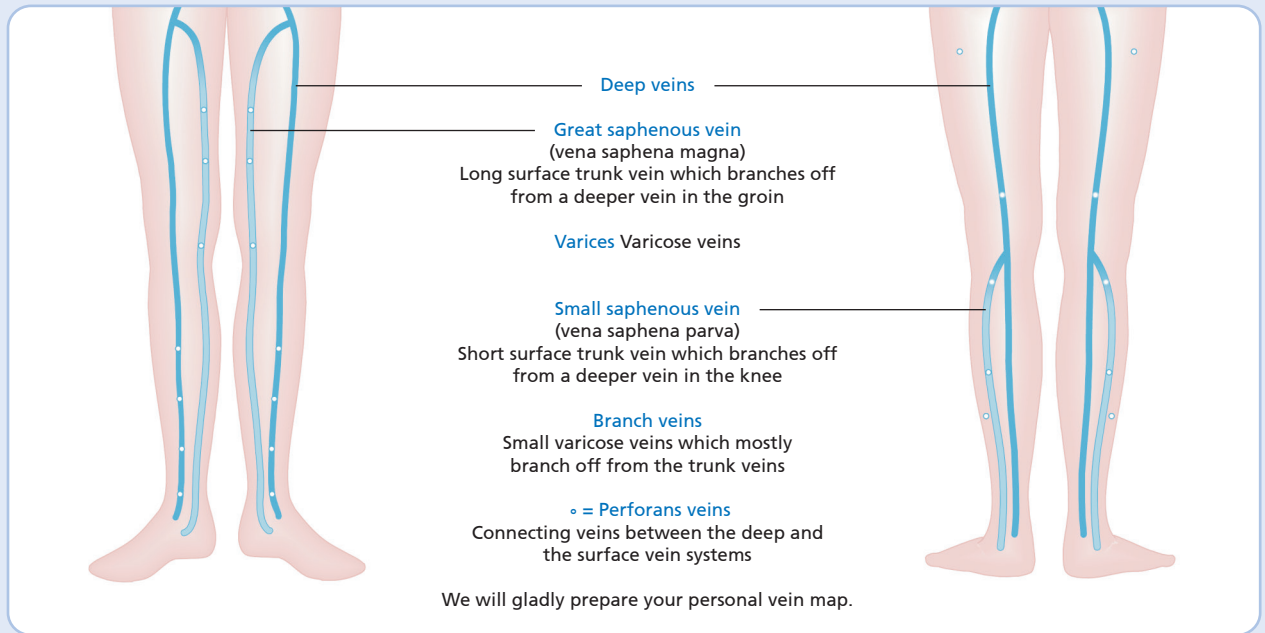
Overview: Therapy Methods

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Minimally-invasive therapy methods						
	Sclerotherapy		Mini- Phlebectomy	Laser Therapy	Radiofrequency Occlusion	Vein stripping
	Liquid sclerotherapy	Foam sclerotherapy				
Type of varicose vein						
Trunk	-	(✓)	-	✓	✓	✓
Branch	(✓)	✓	✓	(✓)	-	-
Perforans	-	✓	✓	✓	-	-
Spider	✓	(✓)	-	-	-	-
Sick leave	usually none	usually none	usually 0-2 days	usually 0-2 days	usually 0-2 days	usually 1-3 weeks
Public health insurance	usually covered for medical reasons (varicose veins); self-payment for aesthetic reasons (spider veins)	Co-pay sometimes necessary; more information upon request	usually covered	not covered, self-payment possible	not covered, self-payment possible	usually covered
Private health insurance	usually covered; (self-payment for aesthetic reasons)	usually covered	usually covered	usually covered	usually covered	usually covered

✓ = recommended therapy method (✓) = recommended therapy method for certain cases

Illustration: Leg Veins



What you should know

Minimally-invasive Vein Therapy

These therapy methods are characterized by maximum gentleness and relatively small incisions. The advantages are obvious: small incisions mean less pain, fewer side effects, and therefore faster healing.

Sick leave

All minimally-invasive methods are possible as outpatient surgery and generally do not require sick leave. With the classic vein stripping operation you should expect a sick leave of one to three weeks.

Aesthetic results

A vein treatment is done mainly for medical reasons. With a minimally-invasive method an optimal aesthetic result is an important goal as well.

Compression

With each therapy, compression with bandages or stockings is necessary. After the treatment of spider veins expect one to three days, after laser therapy one week and after vein stripping four to six weeks.

Costs

Most minimally-invasive methods' prices are calculated according to the German Doctors' Tariffs. Private health insurance usually covers the costs. If you have public insurance, you can still choose these methods as a self-paying patient. If you wish we can provide a cost estimate.

We support all insurances. With public insurance we can provide a health insurance certificate in cases of medical need for all pre-surgery examinations and certain methods (such as liquid sclerotherapy and operations). The treatment of spider veins for aesthetic reasons can still be chosen as a self-paying patient.

We are accredited providers for Tricare Overseas and can treat US military members and their dependents.

Side effects

Every effective medical procedure has side effects. The minimally-invasive methods distinguish themselves by having relatively few side effects.

Long-term successes

For minimally-invasive methods it is proven: with a view to safety, few side effects, aesthetic results and less sick leave, they are superior to classic vein stripping. For recurring varicose veins these methods also produce good results.

Anesthesia

All minimally-invasive methods can be done without anesthesia or just with local anesthesia. The risk of permanent numbness is reduced because the aware patient can tell if the nerves are touched. The low risks associated with general anesthesia are completely avoided.

Which method is right for me?

After determining your case history and a detailed Duplex ultrasound we will recommend the method most suited to you. We will develop a treatment plan with you.

Service Tip

Just fax us any previous diagnoses (doctor's letter or ultrasound results). We will inform you about possible minimally-invasive treatments. Call us.

Further information

We are specialists in the most modern method of vein diagnoses, prevention and treatment. At www.venenzentrum-wiesbaden.de we provide important information about veins as well as further services that we can offer to you.

We are always here for you.

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