



# Suffering from varicose veins?

## Patient Information

### **ELVeS Radial™**

Minimally invasive laser therapy of  
venous insufficiency

# Do you suffer from heavy legs or visible veins?



Up to **40% of women** and **20% of men** suffer from symptoms such as tired, heavy legs and swelling as well as prominent veins that are clearly visible under the skin.

Experts estimate that these symptoms are experienced by a significant number of individuals worldwide (**22 million** in Germany alone\*).

This makes diseases of the veins one of the most prevalent conditions today. The primary causes include congenital connective tissue weakness, hormonal changes and long stretches of stand-

ing and sitting.

Impaired veins are more than just a cosmetic problem – in the worst cases and in advanced stages, they can lead to painful skin ulcers if not treated.

# What should I know?



While the heart serves as the pump for transporting blood in the arteries, the veins require additional pumping mechanisms to counteract the force of gravity when the body is upright.

The transport of blood back to the heart by the calf muscle is supported by the valves in our veins.

*Closed valve*

If these valves do not close properly, blood flows back into the legs and pools in the veins which become distended due to the increased pressure.

The condition in which veins malfunction in this way is referred to as varicose veins, varicosis or venous insufficiency.

Pronounced varicose veins lead to problems with the drainage of blood and typically result in complaints and complications such as heavy legs, pain, swelling, inflammation and varicose hemorrhage.



*Damaged valve*

# What can I do?

The earlier vein impairment is identified, the lower the risks. Varicose veins are often treated for aesthetic reasons. However, treatment is also highly advisable for medical reasons because the complications may be severe and can be avoided in most cases if the condition is treated in time.

The basic form of treatment for diseases of the veins is compression therapy. The principle underlying this type of treatment is to reduce the width of the vein by applying external pressure. However, once a vein becomes distended, it can never contract back to its original size, and so compression therapy needs to be applied for the remainder of the patient's life. Alternatively, the vein can be disconnected from the vein system. Surgical measures seek to completely eliminate venous diseases as far as possible.

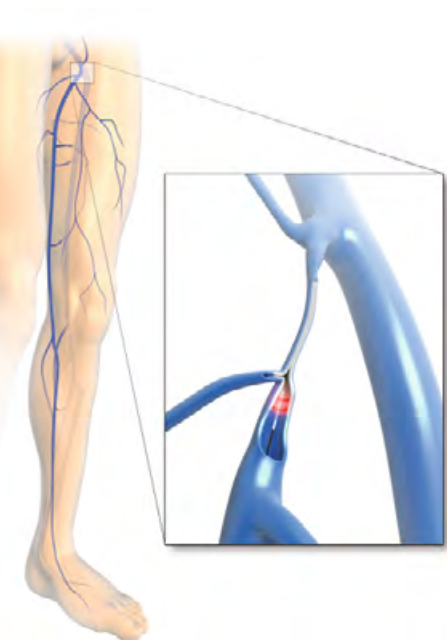
Vein stripping is the standard surgical treatment for removing large varicose veins. This procedure extracts the diseased saphenous vein from the leg in its entirety. Surgery is usually performed under general anesthesia, and recovery takes approximately three weeks. According to literature one out of seven patients is expected to have damage to the adjacent nerves.



Radiofrequency therapy and foam sclerotherapy are additional methods in use. The latter involves injecting foam into the vessels where it causes an inflammation. When the inflammation is in remission, the veins scar over and the varicose vein scleroses. However, certain basic undesirable effects may occur: allergic reactions, skin necroses (death of skin cells), excessive sclerosis reactions, nerve damage, migraine-like symptoms, orthostatic collapse and thromboembolism.

The radiofrequency method involves insertion of a catheter into the vein and heating up the interior wall of the vein using radio waves. The vessel wall and neighbouring connective tissue denature and contract. In a matter of weeks, a long fibrotic cord develops. According to manufacturer specifications, potential complications include vessel perforation, thrombosis, pulmonary embolism, vein inflammation, bruising, infections and sensitivity disruption (paresthesia)\*\*. Treating veins close to the skin surface may cause skin burns. The risk of sensitivity disruption is higher when the treatment is performed at or below the calf. This method has to be used with caution in patients with pacemakers and implanted defibrillators.

# The ELVeS Radial™ procedure



The ELVeS Radial™ procedure is a gentle and extremely effective procedure that ensures patient comfort during and after treatment. biolitec®, a pioneer in the area of minimally invasive therapy, introduced the first generation of lasers for the treatment of varicose veins as early as 1998. Based on continuous research, enhancements and many years of experience, the ELVeS Radial™ proce-

cedure was developed together with world-renowned experts and introduced in 2008.

It is based on the removal of the defective vein through complete closure of the inner vessel wall by laser irradiation. In combination with the world's first ever radial emitting laser probe ELVeS Radial™, the clinically proven ELVeS Radial™ laser with its special wavelength of 1470nm provides a uniform beam pattern in order to avoid the risks of perforation, discomfort or skin burns.

In addition, the need for local anesthesia can be reduced to a minimum. The patient will notice desired results immediately after this gentle, minimally invasive procedure.

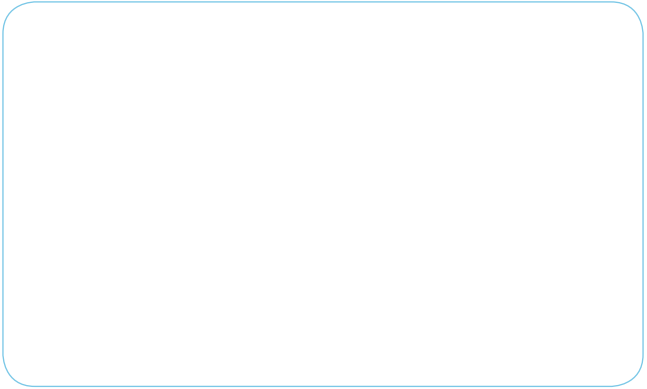
ELVeS Radial™ represents a minimally invasive procedure that is performed on an outpatient basis under local anesthesia and only takes about 30 minutes to complete. In this procedure, the ELVeS Radial™ probe is inserted into the affected vein through a small puncture site. The probe is then used to direct the laser light into the vein using targeted radial emission. The laser seals the vein. Patients experience little or no pain during or after the procedure.

Patients can also resume normal activities immediately after treatment with ELVeS Radial™. Patients choosing this treatment will benefit from the following advantages:

- A virtually pain-free recovery
- Maximum patient comfort
- Short treatment times
- No scarring
- Little or no post-operative bruising
- Excellent medical and cosmetic results
- Quick return to normal activities

The RFID concept of biolitec® ensures the proper single use of each probe and prevents wear and malfunction.

For more information about the treatment of varicose veins and to locate an ELVeS® treatment center, please do not hesitate to contact us:



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