



# ELVeS®

ELVeS Radial™ • ELVeS Radial Slim™ • ELVeS Radial 2ring™\*

**NEW**

Fast, Safe, Effective,  
Convenient, Complete.

**bio**  
**LITEC**®  
biomedical technology

# THE SUCCESS CONTINUES...

**NEW**

ELVeS® · ELVeS Radial™ · ELVeS Radial slim™ · ELVeS Radial 2ring™\*

## **ELVeS Radial™**

For the treatment of superficial venous reflux ELVeS Radial™ has changed the future of endovenous laser treatment. In combination with the ELVeS® Laser System (1470nm) this unique fiber system is considered as the new state-of-the-art technology.

## **ELVeS Radial slim™**

Designed to treat superficial venous reflux on perforator veins and small saphenous veins. More complicated anatomies and recurrences from stripping can also be handled effortlessly with Radial Slim™.

## **ELVeS Radial 2ring™\***

Splitting the power in two phases (distance of rings 6mm) leads to an effective closure of the vein with

- less energy density of each ring
- optimal homogenous radiation to the vessel wall
- easier pullback technique

The 2-phase radiation with ELVeS Radial 2ring™\* is the best choice for a perfect outcome, not only for experienced physicians, but also for beginners who need an efficient, safe and easy-to-use technique.

# ELVeS®

ELVeS Radial™ · ELVeS Radial Slim™ · ELVeS Radial 2ring™\*

The Future is Radial®

- maximum patient comfort – less post-operative pain, bruising and swelling
- excellent medical and cosmetic results
- quick return to normal activities
- short treatment time



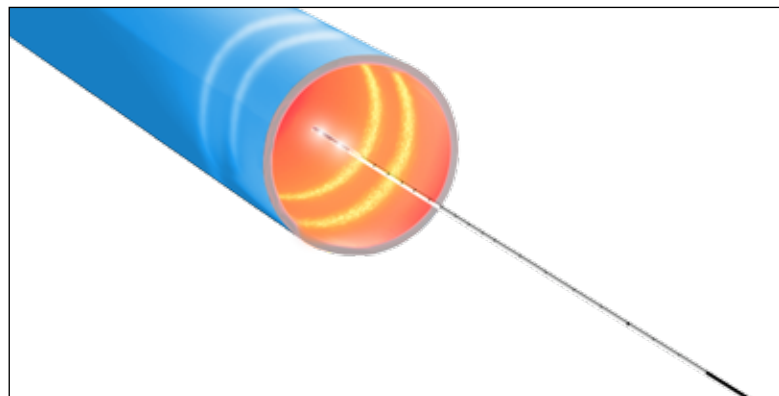
## A unique Solution for Treatment of Venous Incompetence

Venous reflux disease is a common condition. Up to 40% of women and 20% of men suffer from symptoms such as fatigue, pain and swelling of lower limbs. Primary causes include congenital connective tissue weakness, hormonal changes and long periods of standing and sitting.

Impaired veins can be more than a cosmetic problem. Left untreated venous reflux disease can progress to skin changes, discoloration, inflammation and venous ulcer.

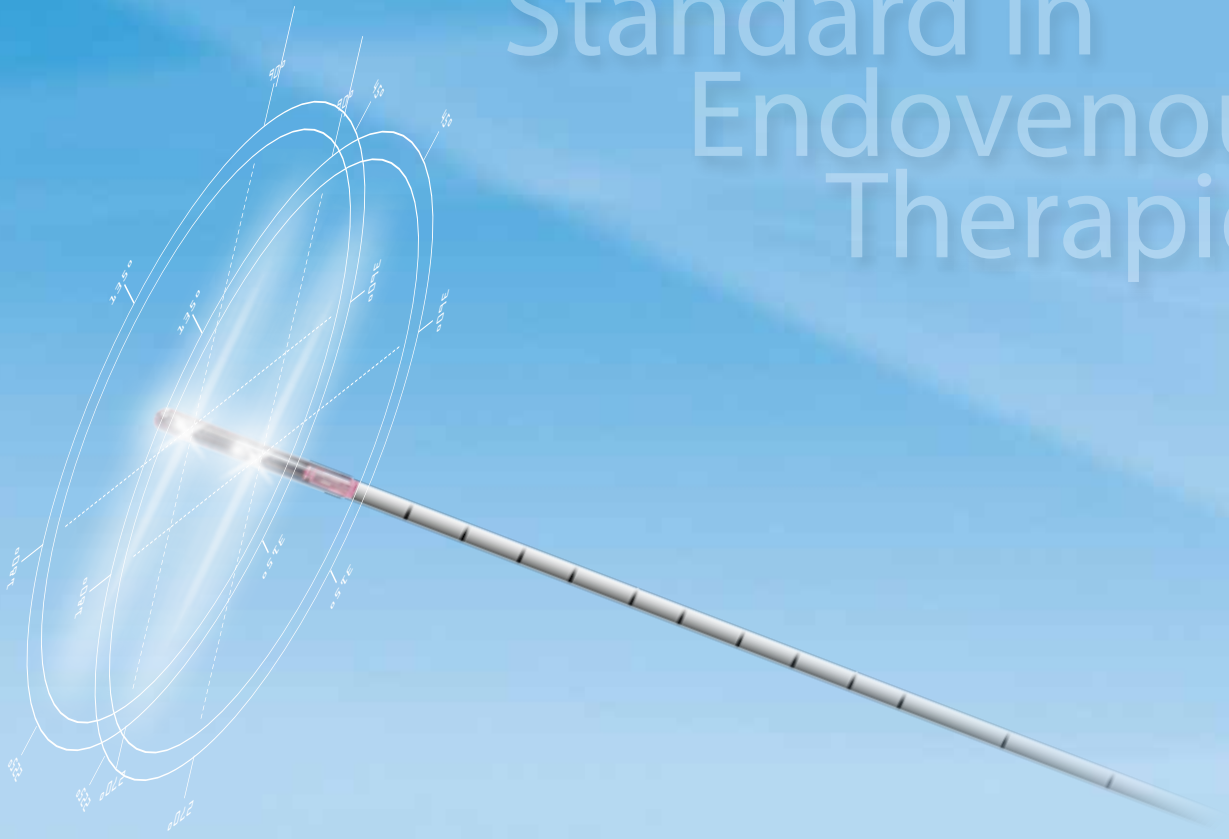
biolitec® – a global pioneer in state-of-the-art medical laser technology – introduces ELVeS Radial™, a versatile and easy to use system allowing for minimally invasive treatment of venous reflux disease.

The treatment can be performed on an outpatient basis under tumescent local anesthesia.



ELVeS Radial™ -  
a unique technology

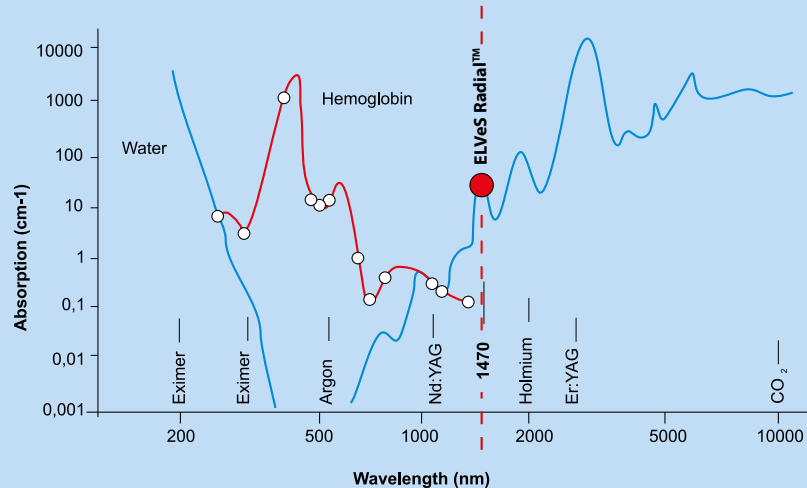
# The Gentle Standard in Endovenous Therapies



## ELVeS Radial 2ring™\*

A fast and effective  
Treatment of...

- Greater saphenous vein
- Small saphenous vein
- Perforating Veins
- Recurrences
- Ulcus Cruris



The absorption coefficient of water at 1470nm is significantly higher than in the wavelength range of 810 – 1064nm.

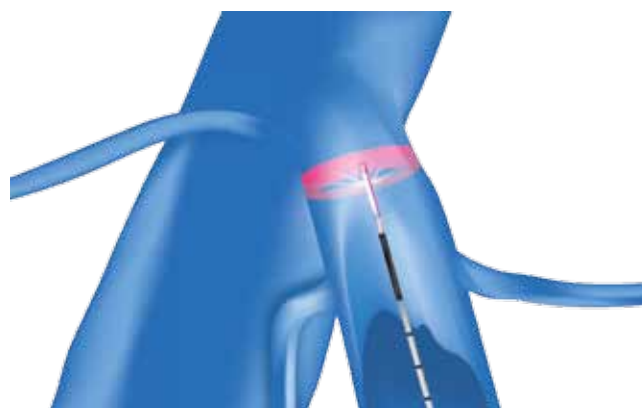
## Homogenous Laser Emission

ELVeS Radial™ offers the optimum treatment solution for an effective and gentle endovenous laser therapy and is setting new standards for patients and users.

The ELVeS Radial™ system features a patented design for a safe and simple approach – performing endovenous laser therapy has never been more convenient.

Delivering homogenous laser emission based on a unique and patented distal design, ELVeS Radial™ minimizes the risk of vein perforations and assures high echogenic visibility.

The 1470nm laser energy is preferentially absorbed in the intracellular water of the vein wall and in the water content of blood. The irreversible photo-thermal process induced by the laser energy results in a complete occlusion of the treated vein.



Patented Design for a  
Safe and Simple Approach

The ELVeS Radial™ procedure minimizes any post-operative inflammatory pain and bruising, due to a 40 times or greater absorption coefficient in water compared to 810nm - 980nm lasers targeting hemoglobin.

Incompetent veins treated with ELVeS Radial™ showed a 30-40% reduction in vein diameter one day after the procedure as well as highest occlusion rates in a D1, D10, D30, 6 and 12 months follow-up.

Dr. Uldis Maurins, Riga, Latvia

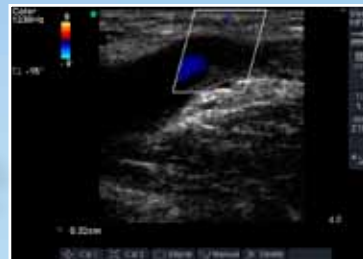
# ELVeS Radial™



Ultrasound image: pre-op day 0



Ultrasound image: post-op day 1



Ultrasound image: post-op day 30



Ultrasound image: post-op day 30

The Gentle  
Standard in  
Endovenous  
Therapies

## A complete Solution including

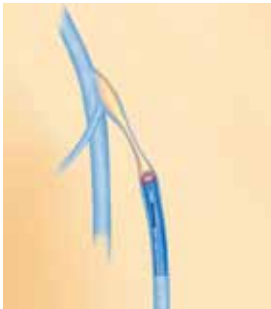
- ELVeS® diode laser platform
- ELVeS Radial™ applicator devices
- ELVeS Radial™ patient education material
- Field sales support and customer service
- On-Site OR and in-office training
- Global network of key opinion leaders and training centers

# ELVeS Radial™ - a unique Technology

- State-of-the-art functionality
- Superior ease of use
- Dedicated ELVeS Radial™ software features
- Visual control of treatment energy via screen
- Unmatched reliability
- Touch screen color display
- Compact and portable for clinic and office use
- No special electrical requirements necessary



## The ELVeS Radial™ procedure



- The ELVeS Radial™ procedure is performed under ultrasound guidance and Tumescant Local Anesthesia (TLA). However, some centres prefer to work without TLA using a sensory femoral nerve block or a mild sedation with some reported advantages\*\*.
- Following percutaneous entry into the saphenous vein the ELVeS® applicator system is advanced towards the saphena-femoral junction.
- The laser procedure is carried out along the entire length of the incompetent vein under continuous pull back of the ELVeS® applicator system.
- The complete treatment takes about 30-45 minutes; patients can return to normal activities immediately.
- Bi-lateral ELVeS Radial™ treatments or combined GSV & SSV procedures can be performed during the same session.

### Why ELVeS Radial™ ?

In the area of laser medicine biolitec® stands for state-of-the-art diode laser and optical fiber technology.

As a global pioneer in endovenous laser ablation biolitec® places a primary emphasis on the standardization of treatment and training of physicians treating with the ELVeS Radial™ system.

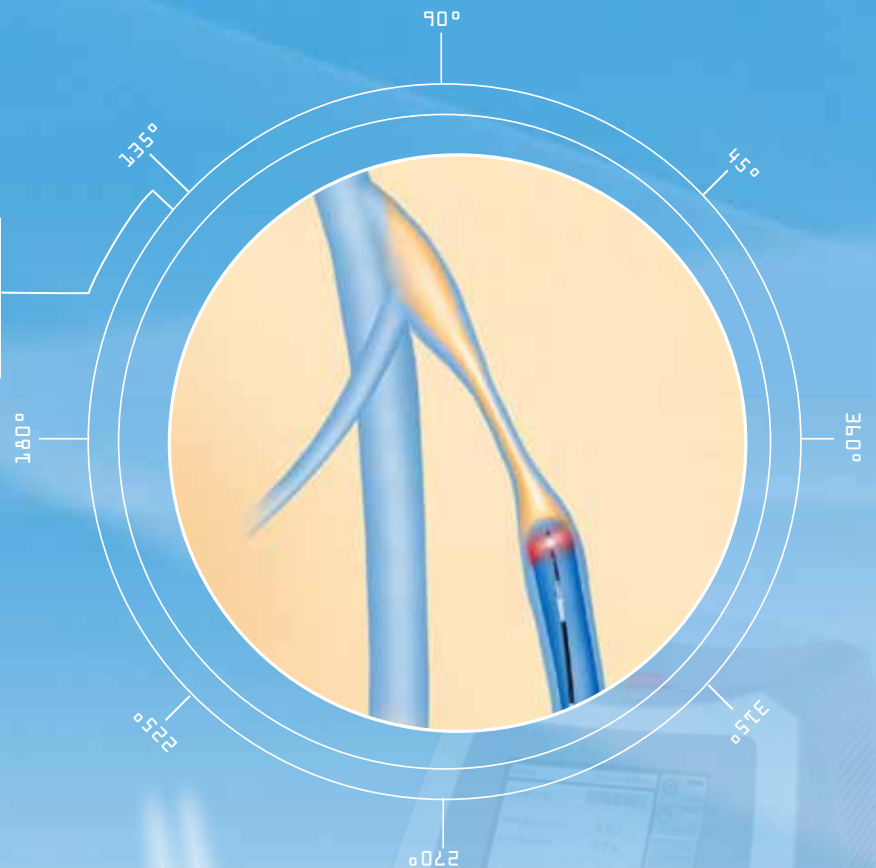
ELVeS Radial™ provides a unique opportunity for expanding your practice, improving patient outcomes and maximizing your return-on-investment.

ELVeS Radial™ is a unique solution so you can focus on treating your patients.

*\*\*Endovenous Laser Ablation (EVLA):  
lessons learned during the last 10 years  
J. H. G. Ferreira, Phlebologic Unit of  
Saint Lucas Hospital, Pontiac Catholic  
University of Rio Grande do Sul  
(PUCRS) – Brazil  
IUA World Congress, Buenos Aires –  
Argentina, April 21 - 25th, 2010*

Superior Ease of Use -  
Unmatched Reliability

The patented 360° energy emission of the ELVeS Radial™ Fiber results in a homogenous coagulation of the vein wall.



## ELVeS Radial™ Fiber

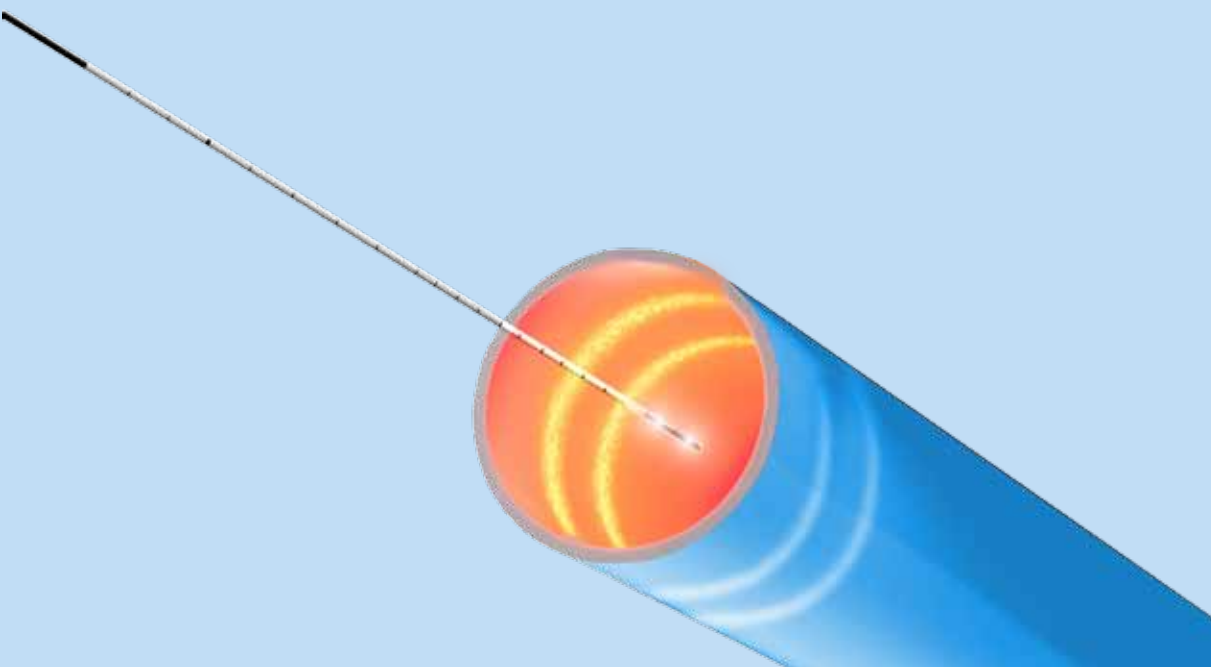
The combination of the ELVeS Radial™-Laser System and the ELVeS Radial™-Fiber was developed to significantly increase the patient comfort by reducing the pain, bruising and swelling. The physician will benefit from the ease of handling and key safety factors.

## The Future of Endovenous Laser Treatment

The ELVeS Radial™ Fiber has changed the future of endovenous laser treatment "Radially".

In combination with the ELVeS Radial™ Laser System, this unique fiber system changes vein treatment technology. The patented ELVeS Radial™ Fiber is the first Radial® emitting laser fiber worldwide used for endovenous laser treatments of the Greater Saphenous Vein / Small Saphenous Vein in Patients with Superficial Vein Reflux.





## The All-Round Solution with a built-in Safety Concept

- The ELVeS Radial™ Fiber applies energy faster and more accurately than any other fiber type in the endovenous market.
- The Radial® (360°) energy emission ensures homogenous photothermal destruction of the vein wall, allowing safe closure of the vein.
- The efficient radiation concept of ELVeS Radial™ makes optimal use of the laser energy applied.
- By avoiding perforation of the vein wall and associated thermal irritation of the surrounding tissue, intra- and post-operative pain is minimized, as are echymosis and other side-effects.
- A micropuncture kit is used to insert the ELVeS Radial™ Fiber directly into the vein in a fast and safe one- step procedure. Optimal monitoring of the fiber tip is possible thanks to its excellent ultrasound visibility. With this new technology, extra-long catheters and guide wires are a thing of the past.
- The ELVeS Radial™ procedure is performed under ultrasound guidance and Tumescence Local Anesthesia (TLA). However, some centres prefer to work without TLA using a sensory femoral nerve block or a mild sedation with some reported advantages.\*\*
- The ELVeS Radial™ provides simple and safe control and positioning of the fiber thanks to the excellent ultrasound visibility of the distal end of the fiber.
- Atraumatic fiber tip and optimal glide for safe and easy movement along the vein.
- The ELVeS Radial™ Fiber is equipped with safety markings for optimal control of the pullback process.

*\*\*Endovenous Laser Ablation (EVLA):  
lessons learned during the last 10 years  
J. H. G. Ferreira, Phlebologic Unit of  
Saint Lucas Hospital, Pontiac Catholic  
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IUA World Congress, Buenos Aires –  
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Homogenous photothermal  
Destruction of the Vein Wall

# The Gentle Standard in Endovenous Therapies



Specifications	ELVeS Radial™	ELVeS Radial Slim™	ELVeS Radial 2ring™ *
Light emission	Radial 1ring	Radial 1ring	Radial 2ring
Fiber length	2.5 m	2.5 m	2.5 m
Diameter of the Fiber	1.3 mm	1.05	1.3
Diameter of the Fiber tip	1.85 mm	1.27	1.85 mm
Introducer compatibility	6 Fr	4 Fr	6 Fr

Recommended to use	ELVeS Radial™ / ELVeS Radial 2ring™ *
Laser / Wavelength	Ceralas® E / 1470 nm
Sheath / Dilator	11/23 cm, 6 F
Guide wire	0.035" x 45 cm
Needle	19G x 7cm



ELVeS Radial™-Kit

## The Future is Radial®

Specifications	Ceralas® E
Wavelength	1470 nm
Optical output	15 W at the distal end of the optical fiber
Aiming beam	635nm, continuously adjustable brightness, max. 4 mW
Operating modes	CW, Pulse, Segment, Signal
Pulse length / interval	0,01 – 99,9 sec
Power supply	100 -240 VAC; 50-60 Hz
Dimensions	22 cm x 26 cm x 38 cm /HxWxD
Weight (less carrying case)	approx. 7.5 kg



## The Radial<sup>®</sup> Procedure

After percutaneous puncture of the saphenous vein using a 6F micropuncture set, ultrasound is used to guide the ELVeS Radial™-Fiber along the vein, stopping just short of the saphena-femoral junction, i.e. just short of the point of entry into the deep-vein system. Laser energy is applied to the entire vein segment, with the ELVeS Radial™-Fiber being continuously pulled back.

The ELVeS Radial™ - Fiber enables bilateral or combined treatments of the great saphenous vein and smaller saphenous vein as part of the same procedure. Thanks to its radiation characteristics, the ELVeS Radial™ - Fiber also prevents carbonization, and therefore maintains a steady level of laser radiation and thus energy transferred to the vein wall.



Article Description	Item Number	Manufacturer
ELVeS Radial slim™	501100150	CeramOptec GmbH
ELVeS Radial slim™ Kit (EG)	501100160 (available soon)	CeramOptec GmbH
ELVeS Radial™	501100100	CeramOptec GmbH
ELVeS Radial™ Kit	501100110	CeramOptec GmbH
ELVeS Radial™ Kit (EG)	501100120	CeramOptec GmbH
ELVeS Radial 2ring™* Kit (EG)	501100190	CeramOptec GmbH
Laser Set Ceralas® E 1470 15 W 400µm	SE1470nm15W400u	CeramOptec GmbH

ELVeS Radial™ -  
a unique Technology

# biolitec® worldwide

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