KLS martin GROUP

diomax® 1550

EndoVenous Laser Occlusion (EVLO)

www.klsmartin.com

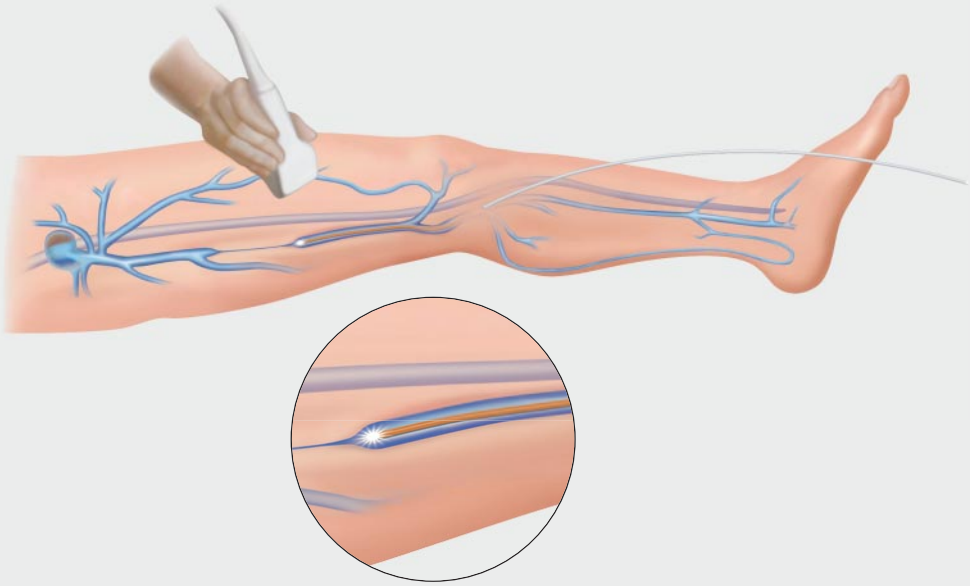
"Endovenous laser occlusion (EVLO) provides an excellent alternative to conventional surgical techniques.

As this minimally invasive procedure can be performed under local anesthesia, it can be used even for multimorbid patients."

Professor Michael Jünger
Director of the Dermatological Hospital,
Ernst Moritz Arndt University of Greifswald
(Germany)

diomax® 1550 – minimal invasive occlusion of insufficient veins

With EVLO (endovenous laser occlusion), KLS Martin offers a minimally invasive technique for use on an outpatient basis. It utilizes the energy of the laser beam to close the affected veins, thus preventing pathologic reflux.



diomax® 1550 – highest efficiency for ideal results

Why EVLO ?

Endovenous procedures are nowadays a fully accepted alternative to the classic vein stripping procedure.

Both the American Society of Vascular Surgery and the American Venous Forum recommend in their guidelines thermal endovenous procedures for the treatment of the incompetent great saphenous veins rather than the classical stripping:

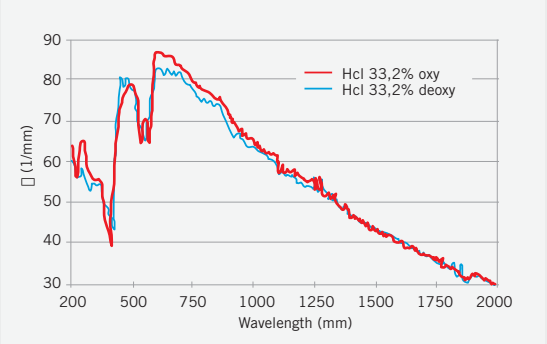
„For treatment of the incompetent great saphenous vein (GSV), we recommend endovenous thermal ablation (radiofrequency or laser) rather than high ligation and inversion stripping of the saphenous vein to the level of the knee (GRADE 1B)."

Journal of Vascular Surgery, Volume 53, Issue 5, Supplement, Pages 2S-48S, May 2011

Why EVLO with a wavelength of 1550 nm ?

The wavelength of 1550 nm absorbs primarily in the water content of the blood and the vein wall. Compared to lower wavelengths it is characterized by a lower scattering effect (loss of energy over emission distance, Pic.1) which results in the possibility to achieve a high effectiveness at lower output powers. In comparison to wavelengths of 940 and 980 nm, half the initial energy results in the same effectiveness1. This results in a lower risk of side effects and therefore in a more gentle treatment with lower pain rates.

Furthermore the wavelength of 1550 nm allows for the ideal penetration depth of the laser energy of 0,25 to 1 mm1 in blood to effectively reach the vein wall even in blood filled vessels.



Scattering coefficient in blood [1]

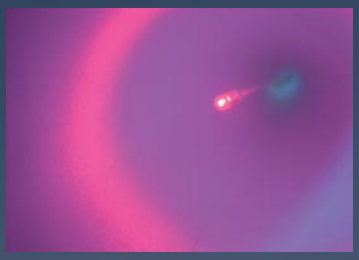
„To decrease pain and undesirable extravasal tissues thermal damage, radiation has to be rapidly absorbed in vein wall and tumescent anesthetic. On the other hand, penetration depth cannot be very short because decrease of the energy absorbing tissue volume may lead to undesirable overheating in small volume. In our estimation, the penetration depth needs to be within 0.2-1.0 mm. As can be seen from the figure, the penetration depth in blood 1/μeff for wavelength 1.47 μm is less than 0.1 mm. On another hand, the penetration depth at 1.56 μm can be estimated as 0.25 mm in blood, and about 0.5 mm in vein wall tissue giving substantial advantage over operation at 1.47 μm.
In summary, our consideration showed that the best conditions for EVLT among used wavelengths are realized for 1,56 μm."

[1] Therapeutic Laser Applications and Laser Tissue Interactions IV, Vol. 10, Nr. 49, ISSN 1605-7422, 7371D

diomax® 1550 –
Combining flexibility and ease-of-use

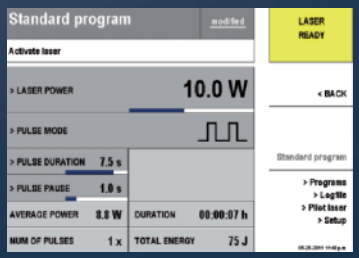
Suitable for multiple disciplines

- Phlebology
- Proctology
- ENT
- PLDD



Application sets

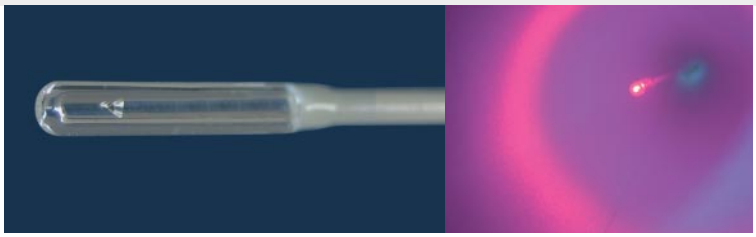
sets with radially emitting (360°) laser fibers



Ease-of-use

- Visual and audio feedback for precise guided energy delivery
- Step-by-step procedure guide in plain text
- Indication specific programs
- Award winning design

diomax® 1550 – Technical and purchasing information



VENEX 360°

Item No.	Designation	SU	Emission profile	Introducer set	Fiber diameter
79-350-00-04	VENEX 360°	5/pack	Radial	6 Fr / 11 cm	600 µm

Item No.	Designation	Wavelength
79-520-01-04	Diode laser diomax® 1550	1550 nm

Technical data	
Laser power	0.1 – 15 W
Laser wavelength	1550 nm
Operating modes	continuous (CW) and pulsed
Pulse modes	Single pulses, pulse trains and cyclical pulse
Operation	Soft keys plus rotary pushbutton (double-function switch)
Display/indicator	TFT color display, luminous ring
Programs	50 memory locations
Memory	Activation and error registers (logs)
Laser class	4

Focus Open
Silber 2010

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