<table>
<thead>
<tr>
<th>Operative procedure</th>
<th>Reference</th>
<th>Summary</th>
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<tr>
<td><strong>EVLA with different wavelengths</strong></td>
<td>Kabnick LS, Outcome of different endovenous laser wavelengths for great saphenous vein ablation. J Vasc Surg. 2006;43:88-93.</td>
<td>Primary incompetence of GSV in 51 patients Group I (N=30 lower limbs): 810-nm diode laser versus Group II (N=30 lower limbs): 980 nm diode laser, both bare fiber, continuous withdrawal, tumescent anesthesia <strong>Results at 4 weeks of follow-up:</strong> Both laser wavelengths were effective in treating GSV insufficiency, with no major complications and a paucity of adverse outcomes</td>
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<td><strong>HL+ EVLA versus EVLA without HL</strong></td>
<td>Desselhoff BC, der Kinderen DJ, Kelder JC, Moll FL. Randomized clinical trial comparing endovenous laser ablation of the great saphenous vein with and without ligation of the saphenofemoral junction: 2-year results. Eur J Vasc Endovasc Surg. 2008;36:713-18.</td>
<td>Bilateral GSV primary incompetence in 43 patients (86 lower limbs) Group I (N=43) HL+ EVLA on one lower limb versus Group II (N=43) EVLA without HL on the other lower limb 810-nm diode laser, bare fiber, continuous laser withdrawal Anesthesia: general (day case procedure) or local (outpatient procedure) <strong>Results at 2 years of follow-up:</strong> No difference between groups in terms of groin recurrence and VCSS improvement</td>
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<td><strong>EVLA GSV ablation AK versus GSV ablation AK+BK</strong></td>
<td>Theivacumar NS, Dellagrammmaticas D, Mavor AID, Gough MJ. Endovenous laser ablation: does standard above-knee great saphenous vein ablation provide optimum results in patients with above-and below-knee reflux.</td>
<td>68 lower limbs C2-C6 with GSV primary incompetence 810-nm diode laser, bare fiber, stepwise laser withdrawal AK and BK GSV reflux and BK VV randomized in 3 groups Group I (N=23): AK-EVLA Group II (N=23): AK+BK EVLA</td>
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All rights reserved. No part of this document may be translated, reprinted, reproduced or used in any form or by any electronic mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from Servier.
**Results at 6 weeks of follow-up:**  
- AVVSS: improved similarly in the 3 groups  
- Complementary sclerotherapy: group I: 61%; group II: 17%; group III: 36%  
- BK-EVLA was not associated with saphenous nerve injury. |
|---|---|---|
| Hogue RS, Schul MW, Dando CF, Erdman BE. The effect of nitroglycerin ointment on great saphenous vein targeted venous access size diameter with endovenous laser treatment. *Phlebology.* 2008;23:222-26. | GSV primary incompetence 75 patients treated by EVLA. Group I treadmill ambulation  
Group II nitroglycerin (NTG) ointment Group III NTG ointment + treadmill ambulation  
**GSV diameter measurement at vein access before and after treatment:**  
- Group I diameter increase: +2.7% (P=NS)  
- Group II diameter increase: +51.7%. (P<0.0001)  
- Group III diameter increase +69% (P<0.0001)  
**Conclusion:** pretreatment with topicaly applied NTG ointment (2%) produced a statistically significant venous dilatation. |
| **EVLA with postoperative compression eccentric or not in complement of stocking** | Lugli M, Cogo A, Guerzoni S, Petti A, Maleti O. Effects of eccentric compression by a crossed-tape technique after endovenous laser ablation of the great saphenous vein: a randomized study. *Phlebology.* 2009;4:151-156. PMID: 19620697 | 200 consecutive patients were treated by EVLA ablation for GSV insufficiency. Baseline characteristics similar for both groups. They were randomized to receive (group A: 100) or not (group B: 100) an eccentric compression applied in the medial aspect of the thigh after EVLA procedure on the GSV without complementary phlebectomy. A 35-mmHg elastic stocking was applied to all treated limbs of both groups. Patients were assessed for a seven-day examination to identify the level of pain experienced by using a visual analogue scale (0 to 10).  
**Results**  
The intensity of postoperative pain was significantly reduced (P < 0.001) in the eccentric compression group as compared with the non-compression one. |
Group I: EVLA 980 nm bare-tip fibre versus  
Group II: EVLA 1470 nm radial fibre **Results at 1-6 months of follow-up:** Less post-operative pain and better VCSS scores in group II compared with group I. |
| **EVLA 1470nm Warm** | Pannier F, Rabe E, Maurins U. 1470 nm diode laser for endovenous ablation (EVLA) of incompetent saphenous veins – a prospective | GSV primary incompetence in 85 lower limbs  
Group I (N=42): warm tumescence anesthesia = 37°C  
Group II (N=43): cold tumescence anesthesia |
| versus cold tumescence anesthesia | randomized pilot study comparing warm and cold tumescence anesthesia. *Vasa.* 2010;39:249-55. | = 5 C°
**Results at 1 month of follow-up:**
- No difference between groups in terms of occlusion
- Postoperative pain reduction in group II
- Significant reduction of analgesic intake in group II


| EVLA 980 nm versus EVLA 1500nm | GSV primary incompetence in 101 patients Group I (N=51): warm tumescence anesthesia = 24 C°
Group II (N=50): cold tumescence anesthesia = 8 C°
**Results at 1 week of follow-up:**
- No difference between groups in terms of occlusion (100%)
- Pain intensity on VAS: 3 in group I and 1 in group II
- Significant reduction of analgesic intake in group II (P<0.05)
- Significant reduction of side effects in group II (P<0.001)


| EVLA Bare Fibre versus Tulip Fibre | GSV primary incompetence in 180 lower limbs Local tumescent anesthesia Group I: EVLA 980 nm bare-tip fibre versus Group II: EVLA 1500 nm bare-tip fibre
**Post-operative results:**
- Less induration in group II (1500 nm) compared with group I (P=0.0002)
- Less analgesics intake in group II (1500 nm) compared with group I
- Better HRQoL (CIVIQ) in group II (1500 nm) compared with group I (P=0.018)
**Results at 6 months of follow-up:**
No difference between groups in terms of occlusion


|  | GSV primary incompetence in 174 patients Local tumescent anesthesia +/- general anesthesia Group I (N=87): EVLA 1470nm diode bare fiber versus Group II (N=87): bare fiber + Tulip fibre Complementary phlebectomy in both groups
**Post-operative results:**
- Less postoperative ecchymosis in group II (Tulip fibre) compared with group I (P<0.001).
- Less postoperative pain in group II (Tulip fibre) compared with group I (P<0.001).
- Better HRQoL in group II (Tulip fibre) compared with group I (P=0.0023).
- But no difference between groups in terms of analgesic intake or patient recovery.

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| EVLA 2 days post-operative compression versus 7 days | Bakker NA, Schieven LW, BruinsRMG, van den Berg M Hissink RJ. Compression Stockings after Endovenous Laser Ablation of the Great Saphenous Vein: A Prospective Randomized Controlled Trial. *Eur. J Vasc Endovasc Surg.* 2013;46:588-91. | 109 patients with incompetent GSV Local tumescent anesthesia Group I: EVLA 810 nm bare-tip fibre + 2 days of postoperative compression therapy (stockings, 35 mm Hg at ankle) Group II: EVLA 810 nm bare-tip fibre + 7 days of postoperative compression therapy (stockings, 35 mm Hg at ankle) **Results at 48 hours to 12 weeks of follow-up:**  
- **Intensity of symptoms on VAS at week 1:** better pain reduction in group II compared with group I  
- **HRQoL (SF36) at week 1:** better improvement  
- **Vein obliteration:** 100 % in both groups  
- **DVT:** no occurrence of DVT in neither group |
| EVLA 12 W intermittent laser withdrawal versus 14W continuous laser withdrawal | Samuel N, Wallace T, Carradice D, Mazari F AK, Chetter C. Comparison of 12-W versus 14-W Endovenous laser ablation in the treatment of great saphenous varicose veins: 5- Year outcomes from a randomized controlled trial. *Vascular and Endovascular Surgery.* 2013;47:346-52. | Incompetent SFJ, reflux in GSV Local tumescent anesthesia Group I (N=38): laser 810-nm bare fiber; laser power 12 W with 1-second laser pulses at 1-second intervals between pulse Group II (N=38): laser 810-nm bare fiber; laser power 14 W continuous withdrawl 2mm/s. Concomitant phlebectomy and/or Perforator ligation in both groups. **Results at 1 week-5 years of follow-up:** Significant improvement in both groups in VCSS, pain scores, AVQ scores, HRQoL scores (SF-36 EQ-5D) compared to preoperative status (P>0.05) **Results at 5 years of follow-up:** Better long term occlusion in group II compared with group I Recurrence more common in group I compared with group II (P=0.035) |
Group II (N72): laser 1470-nm In both groups:  
- local tumescent anesthesia  
- Tulip-tip fibre and concomitant phlebectomy  
**Results at 1-52 weeks of follow-up:**  
- **Pain score at 1 week (VAS)**  
  Less pain in group II (P=0.0004)  
- **Duration of analgesia**  
  Shorter in group II (P=0.037)  
- **Post-operative complications** Same in both groups except for superficial thrombophlebitis that was higher in |
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<tr>
<th>Title</th>
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<tr>
<td><strong>EVLA completed with delayed or concomitant phlebectomy</strong></td>
<td>Carradice D, Mekako AI, Hatfield J, Chetter IC.</td>
<td>Randomized clinical trial of concomitant or sequential phlebectomy after endovenous laser therapy for varicose veins. Br J Surg. 2009;96:369-375.</td>
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- **Results at 1 day-12 weeks of follow-up**
  - Occlusion rates at 12 weeks were 100% in both groups.
  - Rates of pain (0% vs. 25.0%) and bruising (7.0% vs. 57.1%) were significantly lower in Group II (p < 0.0001).
  - VAS of pain was significantly lower on postoperative day 1, day 5 and 2nd week in Group II.

- **Results:**
  - **Intra-operatively and 1 day post-operatively pain**
  - Less pain with Bupivacaine compared to others for both pain evaluation P < 0.0001

- **Follow-up at 7-day, 30-day, 3-month, 6-month 1year:**
  - **RESULTS**
  - Clinical evaluation VCSS
  - US: measurement of occlusion length
  - Group II: less ecchymosis $P < 0.01$, induration $P < 0.01$, day analgesic use $P =$NS
  - VCSS no difference between group I and II
  - Closure rate lower at 1-year in group II. $P = 0.05$
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<th>EVLA with and without postoperative compression in C2 patients</th>
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| (median 65 min) compared with group I (median 45 min); P=0.002 |
| - Pain scores and recovery times: no difference between the 2 groups |
| - HRQoL, severity score (AVVQ, VCSS) at 6 weeks: lower AVVQ score in group II compared to group I; P<0.001 |
| - HRQoL, severity score (AVVQ, VCSS) at 12 weeks: lower AVVQ and VCSS in group II compared to group I; P=0.015 and P<0.001 respectively. |
| - Requirement for secondary |

50 patients with primary incompetence of GSV treated by EVLA+ tributary phlebectomy under local anesthesia

Group I (N=25): delayed phlebectomy versus Group II (N=25): concomitant phlebectomy

**Results at 1 to 5 years of follow-up:**
- HRQoL, severity score (AVVQ, VCSS): no difference between the 2 groups
- Secondary procedure at 1 year: rate of redo surgery
- equivalent between group I=3 and group II=4.

**Secondary procedure at 5 years:** group I=19/23, and group II=5/25

400 C2 patients with primary incompetence of GSV treated by HL + EVLA 810 nm continuous withdrawal for GSV+ Laser on tributary by multiple punctures.

Elastic bandage on the operating table left for one night

Group I (N=200): No compression

Group II (N=200) high elastic compression, 23-32 mmHg at ankle for 2 W

**Follow-up 2 weeks**
- First week
  - less pain P<0.001
  - less edema P=0.01

**After one week**

No difference in terms of HRQoL and mean time to return to work.

**Abbreviations:**
- AK: above knee
- AVVQ: Aberdeen varicose vein questionnaire
- AVVSS: Aberdeen varicose vein severity score
- BK: below knee
- BK-FS: below knee foam sclerotherapy
- DVT: deep venous thrombosis
- EQ-50: Euroqol
- EVLA: endovenous laser ablation
- GSV: great saphenous vein
- HL: High ligation
- HRQoL: health-related quality of life
- NTG: nitroglycerin
- SF: 10-item shortform
- US: ultrasound
- VAS: Visual analogic Scale
- VCSS: venous clinical severity score
- W: watt

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