

Table XVI. Open surgery variants

34 articles.33 RCTs

Reference in same color means same RCT

Operative procedure	Reference	Summary
Partial or complete stripping	Holme JB, Skajaa K, Holme K. Incidence of lesions of the saphenous nerve after partial or complete stripping of the long saphenous vein. <i>Acta Chir Scand.</i> 1990;156:145-8.	<p>Monocenter study</p> <p>163 consecutive patients with GSV or/ and SSV incompetence. No data on deep vein, no detailed data on CEAP clinical classification</p> <p>157 patients assessed postoperatively</p> <p>Group I (n= 84, 80) complete GSV stripping+ tributary avulsion +/- perforator ligation</p> <p>versus</p> <p>Group II (n=79, 77) partial GSV stripping + tributary avulsion +/- perforator ligation</p> <p>Results at 12 weeks of follow-up:</p> <ul style="list-style-type: none"> More frequent lesions of the saphenous nerve in group I (39%) compared with group II (7%). P<0.001
Wound infection following high saphenous ligation	Corder AP, Schache DJ, Farquharson SM, Tristram S. Wound infection following high saphenous ligation: a trial comparing two skin closure techniques: subcuticular polyglycolic acid and interrupted monofilament nylon mattress sutures. <i>JR Coll Surg Ed.</i> 1991;36(2):100-2.	<p>Multi-center study.126 patients treated by isolated SFJ ligation.</p> <p>No data on CEAP clinical classification</p> <p>Group I Skin closure with subcuticular polyglycolic acid (n= 75)</p> <p>versus</p> <p>Group II Skin closure with interrupted monofilament nylon mattress sutures (n= 86)</p> <p>Results at 6 weeks of follow-up:</p> <ul style="list-style-type: none"> Higher infection rate found with subcuticular polyglycolic acid. P= 0.05 Appeared to be operator dependent

<p>Open surgery and post-operative compression</p>	<p>Rodrigus I, Bley J. For how long do we have to advise elastic support after varicose vein surgery? A prospective randomized study. <i>Phlebology</i>. 1991;6:95-98. doi: 10.1177/026835559100600207</p>	<p>Monocenter study 287 legs presenting primary varicose vein were treated by surgery including GSV short stripping and tributary stab avulsion. No data on SSV, deep vein, CEAP clinical classification Exclusion criteria: severe venous insufficiency including ulcer, recent superficial thrombophlebitis and previous VV surgery. An elastic bandage was applied to all patients until removal of sutures, then Group I (n=84): no bandage Group II (n=84): bandage for 2 weeks Group III: (n=89): bandage for 5 weeks</p>
<p>Postoperative compression after open surgery reduces haemorrhage</p>	<p>Travers JP, Rhodes JE. Postoperative limb compression in reduction of haemorrhage after varicose vein surgery. <i>Ann royal college of surgeons of England</i>. 1993;75:119-22</p>	<p>Monocenter study 10 patients treated by open surgery of both lower limbs. No data on CEAP clinical classification Group I high compression(40mmHg before stripping , maintained 1day versus Group II acryl bandage =no compression before stripping, kept 6 days by 99m Results: haemorrhage was measured by ^{99m}Tc-labelled red blood cells Group I less hematoma formation</p>
<p>Variant in redo surgery of the saphenofemoral junction</p>	<p>Gibbs PJ, Foy DMA, Darke SG. Reoperation for recurrent saphenofemoral incompetence: a prospective randomized trial using a reflected flap of pectineus fascia. <i>Eur J Vasc Endovasc Surg</i>. 1999;18:494-498. PMID: 10637145</p>	<p>Monocenter study Thirty-seven patients (40 LL) presenting symptomatic REVAS in GSV territory and neovascularization at the SFJ. No data on CEAP classification, SSV and deep veins. All patient re-exploration and re-ligation of the SFJ. Group I (n=20 LL): with placement of a flap of pectineus fascia at SFJ versus Group II (n=20 LL): without placement of a flap of pectineus fascia at SFJ Follow-up (F-U) minimum 18 months 6 patients lost to F-U. No difference in terms of REVAS between the 2 groups</p>

<p>Open surgery and post-operative compression</p>	<p>Bond R, Whyman M R, Wlilkins D C, Walker A J, Ashley S. A randomised trial of different compression dressings following varicose vein surgery. <i>Phlebology</i>. 1999;14:9-11.DOI : 10.1177/026835559901400103</p>	<p>Monocenter study. Forty-two patients with bilateral GSV insufficiency were treated by SFJ ligation, stripping and stab avulsion. No precise data on CEAP classification Contraindication: previous VV surgery, venous ulcer Patients were randomized in on one lower limb adhesive bandage (Pane last) and on the other TED or Medi Plus All the dressing worn 1 week. Results There was a significant reduction of mobility experienced by patients wearing Pane last bandages compared with the other two dressings. $P < 0.05$</p>
<p>Conventional stripping versus pin stripping</p>	<p>Durkin MT, Turton EPL, Scott DJA, Berridge DC. A prospective randomised trial of PIN versus Conventional stripping in varicose vein surgery. <i>Ann R Coll Surg Engl</i>. 1999; 81: 171–174. PMID: 11397030</p>	<p>Monocenter study 80 patients with incompetent SFJ and GSV incompetence. No SSV surgery was undertaken simultaneously No other data Group I (n=43) PIN stripping versus Group II (n=37) Conventional stripping Results at 1 to 6 weeks of follow-up: . <i>Postoperative complications:</i> no difference between the 2 groups . <i>Size of stripper exit site:</i> significantly smaller in group I. $P < 0.01$</p>
	<p>Durkin MT, Turton EPL, Wijesinghe LD, Scott DJA, Berridge DC. Long Saphenous Vein Stripping and Quality of Life: a Randomised Trial. <i>Eur J Vasc Endovasc Surg</i>. 2001; 21: 545-549. PMID: 10364948</p>	<p>Monocenter study 80 patients with incompetent SFJ and GSV. No data on SSV and deep vein Group I (n=43) PIN stripping versus Group II (n=37) Conventional stripping Results at 6 months of follow-up: (<i>HRQoL (SF-36, EQ-5D)</i>): bodily pain, and physical summary significantly improved in both groups but better in group I.</p>

<p>Open surgery with and without tourniquet</p>	<p>Sykes TC, Brookes P, Hickey NC. A prospective randomised trial of tourniquet in varicose vein surgery. <i>Ann R Coll Surg Engl.</i> 2000;82:280-2.</p>	<p>Monocenter study 50 patients with primary GSV incompetence. No SSV incompetence and deep vein anomaly. No data on clinical CEAP clinical classification Group I (n=25): HL+Stripping + Tributary phlebectomy. with tourniquet <i>versus</i> Group II (n=25): HL+Stripping + Tributary phlebectomy without tourniquet Results at 1 to 6 weeks of follow-up:</p> <ul style="list-style-type: none"> · Operative time: shorter in group I. P<0.01. · Bruising: reduced in group I. P< 0.01 · Temporary saphenous neuralgia: Nb.= 2 in group I · Pain, activity, cosmetic results: similar in both group
<p>Liquid chemical ablation <i>versus</i> Open Surgery+ liquid chemical ablation <i>versus</i> Open Surgery</p>	<p>Belcaro G, Nicolaidis AN, Ricci A, Dugall M, Errichi BM, Vasdekis S et al. Endovascular sclerotherapy, surgery and surgery plus sclerotherapy in superficial venous incompetence. A randomized, 10-year follow-up trial-Final results. <i>Angiology</i> 2000 ;51 :529-34</p>	<p>Multi-center study 150 patients with primary GSV incompetence No data on SSV, no deep vein anomaly, no data on CEAP classification Group I: liquid sclerotherapy (polidocanol 3%; 5- 10 ml) + complementary session at 3 months if needed <i>versus</i> Group II: HL + phlebectomy (?) + liquid sclerotherapy <i>versus</i> Group III: HL + phlebectomy (?) Any surgical procedure under spinal or general anesthesia Results at 1,5 and 10 years of follow-up:</p> <ul style="list-style-type: none"> · Reflux at SFJ: 18.8% in group I vs none in groups II and III · Below the knee reflux: 43.8% in group I vs 16.1% in group II and 36% in group III. <p>It's difficult to draw conclusion from this study</p>

<p>SFJ flush ligation + tributary phlebectomy <i>versus</i> SFJ distal ligation + tributary phlebectomy</p>	<p>Belcaro G, Nicolaidis AN, Cesarone NM, De Sanctis MT, Incandela L, Errichi BM et al. Flush ligation of the sapheno-femoral junction. versus simple distal ligation A randomised, 10-iyear, follow-up. The safe study. <i>Angéiologie</i>. 2002;54:19-23.</p>	<p>Multi-center study 800 patients with primary incompetent GSV. No data on SSV, no PTS CEAP Classification C2-C3 746 patients still available at 10-year Group I (n=369) SFJ Flush ligation +Tributary phlebectomy <i>versus</i> Group II (n=377) SFJ distal ligation +Tributary phlebectomy Procedure Cost and operating time in favor of group II but P=NS Results at 10 years of follow-up: . Number of sclerotherapy sessions (to control varices) in favor of group II . Reflux assessment by DS and AVP: no difference in terms of persistent reflux or AVP . GSV occluded segment in favor of group I, 6.5 cm versus 1.4 cm. P<0.025 No conclusion can be drawn from this study</p>
<p>Saphenous stripping (Babcock) <i>versus</i> pin stripping (Oesch stripper)</p>	<p>Butler CM, Scurr JH, Coleridge Smith PD. Prospective randomized trial comparing conventional (Babcock) stripping with inverting (Pin) stripping of the long saphenous vein. <i>Phebology</i>. 2002;17:59-63.</p>	<p>Monocenter study 136 patients with primary incompetent GSV. No data on SSV and deep vein. Previous ipsilateral venous surgery as well PREVAIT excluded CEAP clinical classification C2 Group I (n=68): HL+S under general anesthesia Conventional stripping, Babcock stripper <i>versus</i> Group II (n=68): inverting stripping Oesch stripper Per operative time: Shorter operative time and less blood loss in group II compared with group I Results at 1 to 26 weeks of follow- up: No difference between groups in terms of hematoma, postoperative pain,</p>

<p>Preoperative duplex scan before varices surgery</p>	<p>Smith JJ, Brown L, Greenhalgh RM, Davies AH. Randomised trial of preoperative colour duplex marking in primary varicose vein surgery: Outcome is not improved. <i>Eur. J Vasc Endovasc Surg.</i> 2002;23:336-343.</p>	<p>Monocenter study 149 consecutive patients presenting primary and uncomplicated varicose veins (GSV an/or SSV) No detailed data on CEAP classification; perforator or deep vein. All patients were assessed by duplex scan (DS) and were treated by open surgery including isolated stab phlebectomy. Group I: n=72 preoperative duplex marking Group II: n= 77 no preoperative duplex marking Outcome at 6-weeks and 12- months No lost to follow-up. There was no difference in terms of recurrence at DS examination and quality of life (SF 36) between the 2 groups</p>
<p>GSV stripping with different materials used for SFJ ligation</p>	<p>Frings N, Nelle A, Tran Ph, Fischer R, Krug W. Reduction of neoreflux after correctly performed ligation of the Saphenous junction. A randomized trial. <i>Eur J Vasc Endovasc Surg.</i> 2004;28:246-252. PMID: 15288626</p>	<p>Multi-center study 379 patients presenting GSV incompetence and symptomatic primary varices C2-C5 were surgically treated including 500 consecutive SFJ ligation+ stripping and +/- tributary avulsion Group I (n=125): HL with absorbable material for SFJ ligation <i>versus</i> Group II (n=125): HL with absorbable material for SFJ ligation+ Polypropylene suture over the stump <i>versus</i> Group III (n=125): HL with non-absorbable material for SFJ ligation Group IV (n=125): HL with non-absorbable material for SFJ ligation + Polypropylene suture over the stump Follow-up at 3 months and 2-year <u>Neo reflux present</u> Group I:10% Group II:0% Group III:11 % Group IV: 4% Neo reflux was significantly reduced in the two groups with endothelial closure (groups II and IV) P<.0.025</p>

<p>compression after surgery</p>	<p>Houtermans-Auckel JP, van Rossum E, Tejjink JAW, Dahlmans AAHR, Eussen EFB Nicolai SPA, Welten R J.Th.J. To Wear or not to Wear Compression Stockings after Varicose Vein Stripping: A Randomised Controlled Trial. <i>Eur J Vasc Endovasc Surg.</i> 2009;38:387-391. PMID: 19608438</p>	<p>Multi-center study One hundred and four presenting primary incompetence of the GSV were treated by SFJ and interruption of all proximal tributaries and short inversion stripping. CEAP clinical classification C2-C3 Both patient groups underwent standard elastic bandaging selective compression of the proximal part of the GSV by a rolled gauze immediately postoperatively for 3 days Group I (n=23): stockings compression (22-32mmHg) 4 weeks <i>versus</i> Group II (n=24): no compression Results at 4-week follow-up: - The difference in leg volume between both the groups was not statistically significant. - Group I: Patients resumed work earlier. P=0.02. No difference was observed in the number and type of complication and in pain scores during the 4-week follow-up period.</p>
<p>High ligation <i>versus</i> high ligation + fascia cribriformis suture <i>versus</i> high ligation with inverting suture of the stump</p>	<p>Haas E, Burkhardt T, Maile N. Reziivhäufigkeit durch Neoangiogenese nach modifizierter Krossectomie. <i>Phlebologie</i> 2005;34 :101-104</p>	<p>Multi-center study 1054 Patients (1389 limbs) with SFJ and GSV reflux. No data on deep vein and CEAP clinical classification Group I (n=607): HL +tributary avulsion including deep tributaries of the femoral vein <i>versus</i> Group II (n=292): HL with fascia cribriformis suture +tributary avulsion including deep tributaries of the femoral vein <i>versus</i> Group III (n=490): HL with inverting suture of the stump+tributary avulsion including deep tributaries of the femoral vein Results at 5 years of follow-up: . Presence of neovascularization at the SFJ with or without varices: Group I: 6.8% Group II: 5.7% Group III: 8.2% P=NS</p>

<p>Open Surgery under general anesthesia + local anesthesia : Lidocaine + adrenaline versus saline solution</p>	<p>Nisar A, Shabbir J, Tubassam P et al. Local anaesthetic flush reduces post-operative pain and haematoma formation after great saphenous vein or stripping: a randomised controlled trial. <i>Eur J Vasc Endovasc Surg.</i>2006;31:325-31.</p>	<p>Multi-center study Primary GSV incompetence. No saphenopopliteal incompetence Previous ipsilateral venous surgery as well PREVAIT excluded. CEAP clinical classification C2-C4 General anesthesia Group I (n=50): HL+ Babcock stripping + local lidocaine and adrenaline versus Group II (n=50): HL +Babcock stripping + saline solution Results at 1 day to 26 weeks of follow-up: . Better reduction of hematoma in group I compared with group II. P = 0.007 . Better reduction of post-operative pain in group I compared with group II. P<0.001.</p>
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<p>SSV surgical treatment variants</p>	<p>Dumas BE, Spronk S, Boelhouwer RU, den Hoed PT. Subfascial ligation at three different levels versus partial exeresis of the incompetent short saphenous vein: A randomized clinical trial. <i>J Vasc Nur.</i> 2007 ;25 :12-18.</p>	<p>Monocenter study 84 patients with symptomatic incompetent SSV combined or not with GSV incompetence treated in the same session. Previous ipsilateral venous surgery as well REVAS not excluded. CEAP clinical classification C2-C6. Ligation of SSV termination when refluxing (Flush ligation?) in all patients Group I (n=44) Subfascial ligation of SSV trunk at 3 different levels. <i>versus</i> Group II (n=40) Additional partial resection of the proximal SSV (10-15 cm) by stripping in group II. Results at 3 months of follow-up: · <i>Reflux assessment:</i> no difference between groups in terms of persistent reflux · <i>Symptoms improvement:</i> No correlation between presence or absence of reflux and symptom improvement, and no difference between groups in terms of improvement.</p>
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<p>Saphenous stripping (Babcock) versus invaginated stripping</p>	<p>Scheltinga MR, Wijburg ER, Keulers BJ, De Kroon CE. Conventional versus invaginated stripping of the great saphenous vein : a randomized double-controlled clinical trial. <i>World J Surg.</i> 2007;31:2236-42.</p>	<p>Monocenter study 92 patients with symptomatic GSV incompetence. No SSV incompetence, no major deep vein anomaly. Previous ipsilateral venous surgery excluded CEAP clinical classification C1-C2 Various anesthesia modality Group I (n= 46) Conventional stripping, (Babcock) versus Group II (n= 46): invaginated stripping. Results at 1 to 26 weeks of follow- up: · Less blood loss in group II compared with group I. P<0.001. · No difference between groups in terms of postoperative pain and returned to work, but less saphenous nerve damage in group II</p>
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<p>Patch insertion at SFJ in recurrent GSV treated by redo surgery</p>	<p>Winterborn R.J, Earnshaw J.J. Randomized trial of PTFE patch for recurrent great saphenous varicose veins. <i>Eur J Vasc Endovasc Surg.</i> 2007;34:367-73.</p>	<p>Monocenter study 31 patients (40 lower limbs) with SFJ reflux recurrence and GSV reflux. No SSV incompetence. No data on CEAP clinical classification Group I (n=20 lower limbs): redo SFJ ligation <i>versus</i> Group II (n=20 lower limbs): redo SFJ ligation+ PTFE patch interposition Results at 6 weeks, 1 year, and 2 years of follow-up: No difference between groups in terms of perioperative complications and recurrent neovascularization.</p>
<p>Duration of compression after surgery</p>	<p>Biswas S, Clark A, Shield DA. Randomized Clinical trial of the duration of compression therapy after varicose vein surgery. <i>Eur J Vasc Endovasc Surg.</i> 2007;33:631-637. PMID: 17276100</p>	<p>Three hundred patients presenting GSV varices were treated by SFJ ligation, pin stripping and stab avulsion. CEAP clinical classification C2-C4 Compression bandaging was applied post-operatively for three days. Patients then wore graduated elastic compression stockings. 220 patients returned their questionnaire Group I (n=110) 1 week Group II (n=110) 3 weeks. Patients were assessed by questionnaire on pain scores at rest and</p>
<p>Flush SFJ ligation <i>versus</i> standard transfixion SFJ ligation</p>	<p>Winterborn R.J, Foy C, Heather H, Earnshaw J.J. Randomized trial of flush saphenofemoral ligation to standard and invagination stripping. <i>Eur J Vasc Endovasc Surg.</i> 2008;36:477-84</p>	<p>Monocenter study 182 patients (210 lower limbs) with GSV reflux. No SSV incompetence, no data on deep vein. CEAP clinical classification C2-C6 Group I (n=87 lower limbs): flush SFJ ligation <i>versus</i> Group II (n=114 lower limbs): standard transfixion SFJ ligation Results at 2 years of follow-up: No difference between groups in terms of PREVAIT and neovascularization</p>

<p>High ligation versus high ligation +PTFE patch</p>	<p>van Rij AM, Jones GT, Hill, G, Amer M, Thomson IA, Pettigrew RA, Packer SGK. Mechanical Inhibition of Angiogenesis at the Saphenofemoral Junction in the Surgical Treatment of Varicose Veins. Early Results of a Blinded Randomized Controlled Trial. <i>Circulation</i>. 2008;118:66-74 PMID: 18559704</p>	<p>Monocenter study 389 LL (292 patients) presenting GSV and SFJ reflux. No data on SSV. Deep venous reflux or previous DVT was not a contra-indication. CEAP clinical classification >2. All patients treated by HL and stripping Group I (n=150): HL versus Group II (n=142): HL+PTFE patch Follow-up 1, 6, 12, 36 months - At 3 years ultrasound detected SFJ recurrence Group I 25/56 P<0.01 Group II 11/44 - More precisely the patch consistently halved the recurrence rate to 3 years postoperatively in all clinical subgroups. - In group II that still developed recurrence, evidence of neovascularization circumventing the PTFE patch was observed by both ultrasound and histology.</p>
<p>Traditional Stripping versus endoscopic stripping</p>	<p>Assadian A, Wickenhauser G, Hübl W, B. Wiltos B, A. Sami A, Senekowitsch C, G.W. Hagmüller GW. Traditional versus Endoscopic Saphenous Vein Stripping: A Prospective Randomized Pilot Trial. <i>Eur. J Vasc Endovasc Surg</i>. 2008;36:611-615. PMID: 18718770</p>	<p>Monocenter study Sixty patients with primary symptomatic GSV reflux. No data on SSV, deep vein. CEAP clinical classification C2-C5 Group I (n=30): HL+ conventional stripping+ tributary stab avulsion versus Group II (n=30) HL+ endoscopic stripping+ tributary stab avulsion Outcome at 1 week . The combined rate of postoperative morbidity was not significantly different . SF -36 better in group II. P=0.03. Outcome at 4-week Group II . Less pain. P<0.005 . Better physical function. P<0.005</p>

<p>Open surgery for varices with and without perioperative administration of MPFF</p>	<p>Saveljev VS, Pokrovski AV, Kirienko AI, Bogachev V, Yu, Solotukhin IA, Sapelkin SV. Stripping of the great saphenous vein under micronized purified flavonoid fraction (MPFF) protection (results of the Russian multicenter controlled trial DEFANCE). <i>Phlebology</i> 2008;15:45-51</p>	<p>Multi-center study 241 patients presenting symptomatic primary VV treated by HL+ stripping of the GSV+ tributary stab avulsion No data on SSV and deep vein CEAP clinical class C2 <i>Group I</i> (n 200) MPFF 500mg 14 days before and after surgical treatment <i>Group II</i> (n 89) No venoactive drugs Results <i>Group I</i> - Less postoperative pain, heaviness and fatigue. No difference with CIVIQ</p>
<p>HL+S+ tributary phlebectomy + antibiotic prophylaxis versus HL+S+ tributary phlebectomy without antibiotic</p>	<p>Mekako AI, Chetter IC, Coughlin PA, Hatfield J, McCollum PT. Randomized clinical trial of co-amoxiclav versus no antibiotic prophylaxis in varicose vein surgery. <i>Br J Surg</i>. 2010;97(1):29-36.</p>	<p>Monocenter study Patients with GSV reflux No data on SSV, deep vein. No previous groin incision. CEAP clinical classification C2-C6 Operative treatment including redo surgery <i>Group I</i> (n=219): HL+ S+ tributary phlebectomy with antibiotics versus <i>Group II</i> (n=214): HL+ S+ tributary phlebectomy without antibiotics Results at 1 to 5 days of follow-up: Prophylactic antibiotics conferred satisfactory wound healing in group</p>
<p>Saphenous ablation with or without SEPS in presence of C5-C6</p>	<p>Nelzen O, Franson I, for the Swedish SEPS Study Group. Early results from a randomized trial of saphenous surgery with or without subfascial endoscopic perforator surgery in patients with venous ulcer <i>BJS</i> 2011;98:495-500</p>	<p>Multicenter study. Seventy- five patient C5-C6, presenting incompetent saphenous veins (GSV+/- SSV) and medial leg incompetent perforators with healed or open ulcer. Exclusion criteria : deep veins reflux grade III. No data on possible vein obstruction. <i>Group I</i> (n=37): Saphenous stripping+ stab avulsion versus <i>Group II</i> (n=38) Saphenous stripping+ stab avulsion + SEPS Follow-up at 1 week and 12 months Results: There was no short-term benefit in ulcer healing for adding SEPS to saphenous ablation</p>

<p>HL+Stripping ± tributary phlebectomy <i>versus</i> Stripping with ligation below SFJ ± tributary phlebectomy</p>	<p>Casoni P, Lefebvre-Villardebo M, Villa F, Corona P Great saphenous vein surgery without high ligation of the saphenofemoral junction .<i>J Vasc Surg</i> 2013;58:173-178.</p>	<p>Multi-center study 120 symptomatic or asymptomatic patients with SFJ and GSV reflux No SSV incompetence, no data on deep vein. No previous surgery on the GSV CEAP clinical classification C2-C6 Group I (n=60): HL+Stripping +/- tributary phlebectomy <i>versus</i> Group II (n=60): Stripping with ligation below SFJ of GSV +/- tributary phlebectomy Results at 8 years of follow-up: · <i>PREVAIT and DS reflux</i> · Group I = 32.2% vs group II=16.4 %. P= 0.045 · <i>Average time of PREVAIT Group I=3.5 ±1.2 years vs group</i></p>
<p>Open surgery for varices with and without perioperative administration of MPFF</p>	<p>Veverkova L, Kalac J, Jedlicka V, Wechsler V. Analysis of the various procedures used in great saphenous vein surgery in the Czech Republic and benefit of Daflon 500 mg to postoperative symptoms. <i>Phlebolympology</i>. 2006;13:193-199.</p>	<p>Multi-center study 181 patients presenting primary VV treated by HL+ partial stripping of the GSV. No data on SSV, deep vein and CEAP clinical class. Group I (n =92) MPFF 500mg 14days before and after surgical treatment <i>versus</i> Group II (n 89) No venoactive drugs Results <i>Group I</i> · Less postoperative pain · Less analgesic consumption · Hematoma smaller. P <0.001</p>

<p>Open surgery and post-operative compression</p>	<p>Mariani F, Marone EM, Gasbarro V, Buccalosi M, Spelta S, Amsler F et al. Multicenter randomized trial comparing compression with elastic stocking versus bandage after surgery for varicose vein. <i>J Vasc Surg.</i> 2011;53:115-122. PMID: 21050700</p>	<p>Multi-center study Sixty patients presenting primary incompetence of the GSV were treated by SFJ flush ligation, with ligation and division of all proximal tributaries, short inversion stripping, stab avulsion of the tributaries +/- perforator ligation. CEAP clinical classification C2-C5. Contra-indication: previous sclerotherapy, previous acute DVT Group I (n=30): stockings (22-32 mm Hg) Group I (n=30) short stretch bandages two or more layers with spiral turns or figure-of-8 turns Outcome measurements at 3, 7 and 14 days No episodes of venous thromboembolism were observed</p>
<p>Preoperative duplex scan before varices surgery</p>	<p>Blomgren L, G. Johansson GL Emanuelsson L, Dahlberg-Akerman A, Thermaenius P, Bergqvist D. Late follow-up of a randomized trial of routine duplex imaging before varicose vein surgery . <i>BJS</i> 2011;98;112-16</p>	<p>Monocenter study 293 patients, 343 lower limbs (LL) presenting primary and uncomplicated varicose veins (GSV an/or SSV) No detailed data on CEAP classification; perforator or deep vein. All were treated by classical open surgery Group I: n=166 LL preoperative duplex imaging Group II: n= 177 LL no preoperative duplex imaging Outcome at 7-year 194 LL were examined clinically and by duplex imaging 95 in group I 99 in group II - No patient developed an ulcer Incompetence at SFJ or SPJ</p>
<p>Open surgery and post-operative compression</p>	<p>Kraznai AG, Sigterman TA, Houtermans-Auckel JP, Eussen ED, Snorejs M, Sikkink KJJM et al. A randomized controlled trial comparing compression therapy after stripping for primary great saphenous vein incompetence. <i>Phlebology</i> 2019;34:669-674</p>	<p>Monocenter study Seventy-eight patients presenting primary incompetence of the GSV were treated by SFJ flush ligation, antegrade stripping from the knee level Spinal anesthesia. CEAP clinical classification C2-C4. No SSV treatment, no data on symptomatology, deep vein and perforator Group I (n= 36) elastic bandage 4 hours Group II (n= 42) elastic bandage 72 hours Outcome at 2 weeks</p>

	<p>Reich-Schupke S, Feldhaus F, Altmeyer P, Mumme A, Stücker M. Efficacy and comfort of medical compression stockings with low and moderate pressure six weeks after vein surgery. <i>Phlebology</i> 2014;29:358-66.</p>	<p>Monocenter study Hundred-eight patients presenting GSV or/and SSV varices including PREVAIT were treated by open surgery and thigh- high medical compression stocking (MCS) was applied post-operatively for 6 weeks Group I (n= 41); 18-21 mmHg Group II (n= 47) 22-32 mmHg Outcome at 1 and 6-week. At 1-week Edema analyzed clinically and by b-scan was lower in group II. Respectively P=0.016 and 0.013. Significant less patients of group II had a feeling of “tightness” P=.</p>
<p>HL+GSV stripping with and without tumescent anesthesia</p>	<p>Nandrah S, Wallace T, El-sheika J, Carradice D, Chetter IA randomised controlled trial of perivenous tumescent anaesthesia in addition to general anaesthesia for surgical ligation and stripping of the great saphenous vein . <i>Phlebology</i> 2020; 35: 305-15.</p>	<p>Monocenter study Patients with primary GSV reflux No data on SSV, deep vein. CEAP clinical classification C2-C6 Operative treatment including redo surgery Group I (n=45): General anesthesia <i>versus</i> Group II (n=:45 General anesthesia + tumescent anesthesia Results Post-operative pain score lower in group II. P= 0.016 Complications, recovery no difference between the 2 groups</p>

Abbreviations:

AVP=ambulatory venous pressure; AVVSSS=Aberdeen Varicose Vein Symptom Severity Score; Classic open surgery =HL+ saphenous vein stripping+/- tributary phlebectomy+/- perforator ligation;DS=duplex scan; EQ-5D; EuroQol; GSV=great saphenous vein; HL=high ligation; HRQoL= Health related quality of life; MPFF=micronized purified flavonoid fraction; Pe=perforator; PREVAIT=presence of varices after interventional treatment;
PTFE= polytetrafluoroethylene; LL=lower limb; REVAS=Recurrent varices after surgery; SF-36=12 surveys to measure both mental & physical health; SFJ=saphenofemoral junction; SSV=small saphenous vein; VV=varicose veins

