ABLATIVE AND SURGICAL TREATMENT
FOR VENOUS INSUFFICIENCY

POLICY

Description of Service

A variety of treatment modalities are available to treat varicose veins/venous insufficiency, including surgical approaches, thermal ablation, and sclerotherapy. The application of each of these treatment options is influenced by the severity of the symptoms, the type of vein, the source of venous reflux, and the use of other (prior or concurrent) treatments.

Background

Varicose veins are a common condition. In adult populations visible varicose veins are present in 20 to 25% of women and 10 to 15% of men. The venous system of the lower extremities consists of the superficial veins, including the greater (GSV) and lesser/small (LSV) saphenous, and accessory veins (ASV), the deep system (popliteal and femoral veins), and perforator veins that cross through the fascia and connect the deep and superficial systems. One-way valves are present within all veins to direct the return of blood up the lower limb. Since venous pressure in the deep system is generally greater than that of the superficial system, valve incompetence at any level may lead to backflow with pooling of blood in superficial veins. Varicose veins with visible varicosities may be the only sign of venous reflux, although itching, heaviness, tension, and pain may also occur. Chronic venous insufficiency secondary to venous reflux can lead to thrombophlebitis, leg ulcerations, and hemorrhage.

Most varicose veins do not require medical treatment. In some cases, however, the circulation may be hindered enough to cause swelling of the foot and ankle, discomfort, a tingling sensation, or a feeling of heaviness. For most people with varicose veins, wearing specially fitted elastic stockings is all that is needed. Treatment of venous reflux/venous insufficiency is aimed at reducing abnormal pressure transmission from the deep to the superficial veins. Conservative medical treatment consists of elevation of the extremities, exercise, weight loss and graded compression. Conventional surgical treatment consists of identifying and correcting the site of reflux by ligation of the incompetent junction followed by stripping of the vein to redirect venous flow through veins with intact valves. While most venous reflux is secondary to incompetent valves at the saphenofemoral or saphenopopliteal junctions, reflux may also occur at incompetent valves in the perforator veins or in the deep venous system.

When conservative measures are insufficient to manage the symptoms of venous reflux, treatment typically consists of the following:

1. Identification of valvular incompetence via diagnostic Doppler ultrasound assessment
2. Control of the most proximal point of reflux, via surgical intervention: ligation at the incompetent saphenofemoral or saphenopopliteal junction as the classic standard
3. Removal of the incompetent superficial vein from circulation, such as via stripping of a saphenous vessel
4. Removal of varicose tributaries by phlebectomy or injection sclerotherapy
Minimally invasive alternatives to ligation and stripping include: sclerotherapy, transilluminated powered phlebotomy and thermal ablation using cryotherapy, high frequency radiowaves or laser energy.

**Endovenous Catheter Ablation (EVCA)**

This is a non-specific term that refers to catheter based minimally invasive alternatives to surgical stripping such as radiofrequency endovenous occlusion (i.e. VNUS procedure) and endovenous laser ablation of the saphenous vein (EVLA). These procedures are generally considered equally effective in the treatment of venous insufficiency of the GSV. Both modalities use thermal energy to seal off the diseased vein via an intraluminal catheter system.

**Microfoam Chemical Ablation- (polidocanol injectable foam)**

Varithena (polidocanol injectable foam) is a sclerosing agent indicated for the treatment of incompetent great saphenous veins, accessory saphenous veins and visible varicosities of the great saphenous vein system above and below the knee. Varithena is used to address the symptoms of superficial venous incompetence and the appearance of visible varicosities. Varithena is contraindicated in patients with a known allergy to polidocanol and acute thromboembolic disease.

**Surgical Ligation and Stripping**

This has been the standard of surgical care for refractory venous insufficiency prior to the introduction of alternative procedures. A small scalpel or needle punctures the skin next to the varicose vein, a small hook is inserted into the hole, and the vein is grasped and removed. An updated Cochrane review from 2014 compared EVLA and RFA and foam sclerotherapy versus ligation/stripping for saphenous vein varices. For EVLA versus surgery, there were no significant differences between the treatment groups for clinician noted or symptomatic recurrence, or for recanalization. This was confirmed by Britten et al.

**Ambulatory Phlebectomy (including Transilluminated Powered Phlebectomy (TIPP) or (TriVex))**

Ambulatory phlebectomy, also called stab avulsion, is one accepted surgical method for removal of varicose tributaries. TIPP is similar to ambulatory phlebectomy but slightly more invasive. It is performed on an outpatient basis in an operating room under light anesthesia. After making two small incisions near the varicose vein, the surgeon inserts a tumescent cannula illuminator (TCI) that contains a fiber optic light that makes the veins easily visible. Fluid containing a local anesthetic is infused under the skin, loosening the vein from the surrounding tissue. A vein remover instrument is guided to the vein, which is suctioned into the instrument where it is cut into small pieces and removed. Due to the large amount of local anesthetic used, patients usually awake without any pain and are able to return home in about an hour. While TIPP had the advantage of fewer surgical incisions, it was associated with a more prolonged recovery due to more extensive bruising, prolonged pain, and reduced early postoperative QOL. The current literature does not show an advantage of TIPP over conventional treatment referred to within this policy.
**Subfascial Endoscopic Perforator Surgery (SEPS)/Linton Procedure**

Historically, incompetent perforating veins were addressed with an open surgical procedure, called the Linton procedure, which involved a long medial calf incision to expose all posterior, medial, and paramedial perforators. While this procedure was associated with healing of ulcers, it was largely abandoned due to a high incidence of wound complications. The Linton procedure was subsequently modified by using a series of perpendicular skin flaps instead of a longitudinal skin flap to provide access to incompetent perforator veins in the lower part of the leg. The modified Linton procedure may be occasionally utilized for the closure of incompetent perforator veins that cannot be reached by less invasive procedures. SEPS represents a minimally invasive alternative to the Linton procedure, and has been investigated since the mid-1980s. Guided by Duplex ultrasound scanning, small incisions are made in the skin unaffected by the changes of severe chronic venous insufficiency. Using endoscopic techniques, the perforating veins are clipped or divided by endoscopic scissors. The operation can be performed as an outpatient procedure.

**Sclerotherapy and Ultrasound Guided Foam Sclerotherapy**

Sclerotherapy effectively treats varicose and spider veins. It’s often considered the treatment of choice for small varicose veins. Sclerotherapy involves injecting a solution directly into the vein. The sclerotherapy solution causes the vein to scar, forcing blood to reroute through healthier veins. The collapsed vein is reabsorbed into local tissue and eventually fades.

The 2013 MAGNA trial, studied 223 consecutive patients (240 legs) with greater saphenous vein reflux who were randomized to EVLA, ligation and stripping, or physician compounded foam sclerotherapy (1 cc aethoxysclerol 3%). At 1-year follow-up, the anatomic success rate of foam sclerotherapy (72.2%) was inferior to both EVLA and stripping. However, it has been shown to be effective for adjunctive treatment of symptomatic saphenous veins, varicose tributaries, accessory, and perforator veins 2.5 mm or greater in diameter for persons who have undergone EVLA or similar procedures for incompetence at the saphenofemoral junction or saphenopopliteal junction.

**Policy Statement**

**Ablative and Surgical Treatment for Venous Insufficiency is covered when it is determined to be medically necessary according to the medical criteria and guidelines hereafter mentioned in the preauthorization requirements.** All vein surgery requests require prior authorization by GEHA. Please refer to the GEHA brochure for additional benefit coverage information and the Authorization/Precertification section within geha.com for these specifics.

1. **Pre-authorization requirements:**

   A. Conservative Treatment (*the conservative treatment requirement may be waived if the patient has already undergone venous surgery or ablation and is presenting with recurrent disease.)*

   i. Clear documentation of conservative medical treatment for a minimum of 3 months to consist of: trial of prescription grade (minimum of 20-30 mm Hg) compression stockings, and
ii. Use of adjunctive measures including, but not limited to: periodic elevation of legs, weight reduction, and daily exercise plan

B. Doppler/Duplex Scanning Report with clear results completed pre-treatment showing valve incompetence with reflux and diameter of veins

C. Documentation of symptoms that are causing functional impairment

2. Pre-authorization clinical documentation requirements:

A. Surgical and/or ablative interventions (ligation/stripping, ablation, microfoam sclerotherapy) to treat incompetence of the greater saphenous vein (GSV) and small saphenous vein (LSV) may be considered if:

i. Ultrasound documented junctional reflux duration of 500 milliseconds or greater in the saphenofemoral or saphenopopliteal vein to be treated; and Vein size is 4.5 mm or greater in diameter measured by ultrasound immediately below the saphenofemoral or saphenopopliteal junction (not the valve diameter at the junction)

   a. Accessory saphenous vein (ASV) treatment is medically necessary when performed following prior treatment (surgical or ablation) to the primary vessels or on the same date of service and the above criteria

   b. Perforator vein ablation/ligation is medically necessary when the performed at the same time or following prior treatment (surgical or ablation) to the primary vessels only when located beneath a healed or active venous ulcer, the vein diameter is 3.5 mm or greater, reflux is greater than 500 milliseconds, and the above criteria are met; often the incompetence in a perforator vein will improve with treatment of the saphenous vein

B. Phlebectomy procedures are considered medically necessary for the treatment of the greater saphenous vein, small saphenous vein, accessory saphenous vein, perforator vein, tributary veins if the following criteria are met:

   i. Procedure must be performed along with an ablation, ligation/stripping, or approved microfoam sclerotherapy to a primary vessel; OR

   ii. These procedures have been done prior and the above criteria are met.

   iii. Phlebectomy is generally limited to one session per extremity in conjunction with an approved treatment plan.

C. Sclerotherapy is considered medically necessary for the treatment of residual tributary veins greater than 2.5 mm still present after the successful treatment of the GSV, LSV and/or ASV

   i. Veins less than 2.5 mm are considered cosmetic

   jj. Sclerotherapy as the sole treatment of varicose veins without associated treatment of the primary veins is not considered standard of care and is not a covered benefit
iii. A maximum of 3 sclerotherapy sessions per leg will be allowed only when the above criteria are met and the plan of care is associated with covered treatments of one or more primary veins in the target extremity.

D. Surgical and/or ablative interventions for Accessory saphenous veins may be considered medically necessary when performed either at the same time or following prior treatment (surgical or ablation) to the proximal saphenous veins and with documentation of one or more of the following indications:

   i. Ulceration secondary to venous stasis; OR
   ii. Recurrent superficial thrombophlebitis; OR
   iii. Recurrent bleeding from a ruptured superficial varicosity; OR
   iv. Persistent pain, swelling, itching, burning, or other symptoms are associated with saphenous reflux AND
      a. The symptoms significantly interfere with activities of daily living, AND
      b. Conservative management including compression therapy for at least 3 months has not improved the symptoms.

E. Surgical ligation (including subfascial endoscopic perforator surgery) or endovenous radiofrequency or laser ablation of incompetent perforator veins may be considered medically necessary as a treatment of leg ulcers associated with chronic venous insufficiency when the following conditions have been met:

   i. There is demonstrated perforator reflux; AND
   ii. The vein diameter is 3.5 mm or greater;
   iii. The superficial saphenous veins (great, small, or accessory saphenous and symptomatic varicose tributaries) have been previously eliminated; AND
   iv. Ulcers have not resolved following combined superficial vein treatment and compression therapy for at least 3 months; AND
   v. The venous insufficiency is not secondary to deep venous thromboembolism.

Perforator veins, even with reflux demonstrated, do not require surgery or ablation unless persistent venous ulcers are present or a history of ulcers. Frequently the incompetence in the perforator will improve with treatment of the saphenous vein\(^1\).

**Ablative and Surgical Treatment for Venous Insufficiency is not covered when:**

1. When the above criteria are not met, or
2. If the treatment regimen is considered experimental or investigational, or
3. Listed as a non-covered service per this policy

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GEHA considers the following vein therapy procedures experimental and investigational OR cosmetic and are therefore not covered. This includes, but is not limited to, the following:

A. **Endomechanical or Mechanochemical Ablation (MOCA)**

This technique is also referred to as Endomechanical ablation, mechanico-chemical endovenous ablation (MCEA) and mechanically enhanced endovenous chemical ablation (MEECA) (including but not limited to ClariVein, VenaSeal, etc). Mechanochemical endovenous ablation utilizes both sclerotherapy and mechanical damage to the lumen. Following ultrasound imaging, a disposable catheter with a motor drive is inserted into the distal end of the target vein and advanced to the saphenofemoral junction. A wire rotates within the lumen of the vein, abrading the lumen. At the same time, a liquid sclerosant is infused near the rotating wire. It is proposed that mechanical ablation allows for better efficacy of the sclerosant, without the need for the tumescent anesthesia used in radiofrequency ablation or endovenous laser ablation. Initial studies appear to indicate that this procedure results in less post-operative pain with comparable outcomes\(^{vi,vii}\), further long term studies remain to be completed\(^{viii}\) before considering this procedure to be non-investigational.

B. **Photothermal Sclerosis**

Also referred to as an intense pulsed light source, e.g., the PhotoDerm Vasculight, VeinLase. This procedure is used to treat small veins such as small varicose veins and spider veins. Photothermal Sclerosis is considered cosmetic because such small veins do not cause pain, bleeding, ulceration, or other medical problems.

C. **Endovenous Cryoablation**

Cryoablation uses extreme cold to cause injury to the vessel. Kelm\(^ix\) et al concluded that cryo-stripping accounts for numerous procedural failures and hence residual GSV in patients. The Aberdeen Varicose Vein Questionnaire (AVVQ) showed small but significantly better results for patients after a conventional stripping. Thus, cryo-stripping has no benefits over conventional stripping\(^x\). Disselhoff et al reported long lasting and more effective outcomes with EVLA as opposed to cryoablation\(^xi\)

D. **Asclera polidocanol injection**

GEHA considers Asclera polidocanol injection as cosmetic; although Asclera has been approved by the Food and Drug Administration (FDA) for the treatment of telangiectasias and reticular veins less than 3 mm in diameter, treatment of these small veins is considered cosmetic.

GEHA considers the following as absolute contraindications to venous surgery and/or ablation:

A. Acute deep vein thrombosis (DVT)

B. Acute superficial phlebitis
C. Acute infections at puncture sites
D. Deep venous obstruction if the vein to be treated is a functional collateral
E. Pregnancy or nursing
F. Extreme arterial insufficiency

**CPT Codes covered if criteria are met:**

36470 sclerotherapy for one vein
36471 sclerotherapy for multiple veins
36475 Endovenous ablation therapy of incompetent vein, extremity, inclusive of all imaging guidance and monitoring, percutaneous, radiofrequency; first vein treated
36476 second and subsequent veins treated in a single extremity, each through separate access sites (List separately in addition to code for primary procedure)
36478 Endovenous ablation therapy of incompetent vein, extremity, inclusive of all imaging guidance and monitoring, percutaneous, laser; first vein treated
36479 second and subsequent veins treated in a single extremity, each through separate access sites (List separately in addition to code for primary procedure)
37500 Vascular endoscopy, surgical, with ligation of perforator veins, subfascial (SEPS)
37700 Ligation and division of long saphenous vein at saphenofemoral junction, or distal interruptions
37718 Ligation, division, and stripping, short saphenous vein
37722 Ligation, division, and stripping, long (greater) saphenous veins from saphenofemoral junction to knee or below
37735 Ligation and division and complete stripping of long or short saphenous veins with radical excision of ulcer and skin graft and/or interruption of communicating veins of lower leg, with excision of deep fascia
37760 Ligation of perforator veins, subfascial, radical (Linton type), including skin graft, when performed, open, 1 leg
37761 Ligation of perforator vein(s), subfascial, open, including ultrasound guidance, when performed, 1 leg
37765 Stab phlebectomy of varicose veins, one extremity; 10-20 stab incisions [ambulatory]
37766 more than 20 incisions [ambulatory]
37780 Ligation and division of short saphenous vein at saphenopopliteal junction (separate procedure)
37785 Ligation, division, and/or excision of varicose vein cluster(s), one leg
37799 unlisted procedure; used for stab phlebectomy <10 stabs
37799 unlisted procedure and J3490 unclassified drug; used for foam sclerotherapy

**CPT or HCPCS CODE(S) NOT COVERED FOR INDICATIONS LISTED IN THE CPB:**

- **S2202** Echosclerotherapy
- **10140** Incision and drainage of hematoma, seroma or fluid collection
- **10160** Incision and drainage of abscess (e.g., carbuncle, suppurative hidradenitis, cutaneous or subcutaneous abscess, cyst, furuncle, or paronychia); simple or single
- **36011** – Selective catheter placement, venous system; first order branch (e.g., renal vein, jugular vein)
- **36468** Single or multiple injections of sclerosing solutions, spider veins (telangiectasia); limb or trunk
- **36469** Single or multiple injections of sclerosing solutions, spider veins (telangiectasia); face
- **36473** Endovenous ablation therapy of incompetent vein, extremity, inclusive of all imaging guidance and monitoring, percutaneous, mechanochemical; first vein treated
- **36474** Endovenous ablation therapy of incompetent vein, extremity, inclusive of all imaging guidance and monitoring, percutaneous, mechanochemical; subsequent vein(s) treated in a single extremity, each through separate access sites (List separately in addition to code for primary procedure)
- **37204** Transcatheter occlusion or embolization (e.g., for tumor destruction, to achieve hemostasis, to occlude a vascular malformation), percutaneous, any method, non-central nervous system, non-head or neck
- **37241** Vascular embolization or occlusion, inclusive of all radiological supervision and interpretation, intraprocedural road mapping, and imaging guidance necessary to complete the intervention; venous, other than hemorrhage (e.g., congenital or acquired venous malformations, venous and capillary hemangiomas, varices, varicoceles)
- **37244** Vascular embolization or occlusion, inclusive of all radiological supervision and interpretation, intraprocedural road mapping, and imaging guidance necessary to complete the intervention; for arterial or venous hemorrhage or lymphatic extravasation
- **75894** Trans catheter therapy, embolization, any method, radiological supervision and interpretation
- **76942** Ultrasonic guidance for needle placement (e.g. biopsy, aspiration, injection and localization device), imaging supervision and interpretation [not covered when performed solely to guide the needle or introduce sclerosant into the varicose veins
- **76998** Ultrasonic guidance, intraoperative [not covered when solely performed to guide the needle or introduce sclerosant into the varicose veins]

**Scientific References:**


Gloviczki, P, MD, ...May 2011, Society for Vascular surgery; Summary of guidelines for management of patients with varicose veins and associated chronic venous diseases.


Bishawi M Phlebology. 2016 Jan 24. pii: 0268355515627260


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Policy implementation and updates:

September 2017- Clarification of language and reorganization of content. Clarifying changes made in the defined coverage for sclerotherapy.