

RMHP Saphenous Vein Ablation, Laser

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MCG Health
Ambulatory
Care
27th Edition

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Clinical Indications for Procedure

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For members with **RMHP Medicare (CareAdvantage or DSNP Dual Special Needs Plan)** coverage, the request will be pended. The reviewer will apply the Medicare Local Coverage Determination L34924 and Article A55229 guidance. The requester will be notified of the decision per RMHP protocol. See References.

- For members with **PRIME (Medicaid), CHP+ or Individual and Family Plan (IFP) Commercial** coverage, endovascular laser saphenous vein ablation may be indicated when **ALL** of the following are present(1)(2)(3)(4)(5)(6) :
 - Incompetence of saphenous vein ^[A] documented by duplex ultrasound or other imaging test with valve closure time of greater than 500 msec(9)(10)
 - Saphenous venous insufficiency symptoms causing functional impairment, including **1 or more** of the following(7)(8)(11):
 - Bleeding or ruptured superficial varicose veins
 - Leg edema
 - Leg fatigue
 - Leg pain
 - Persistent or recurrent superficial thrombophlebitis
 - Persistent or recurrent venous stasis ulcer
 - Skin changes (eg, lipodermatosclerosis, hemosiderosis)
 - No clinically significant lower extremity arterial disease(12)
 - No deep venous thrombosis on duplex ultrasound or other imaging test

Alternatives to Procedure

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- Alternatives include(13)(14)(15)(16)(9):

- Compression stockings.(10)(17) See [Graduated Compression Stockings](#) AC for further information.
- Radiofrequency saphenous vein ablation.(18)(19) See [Saphenous Vein Ablation, Radiofrequency](#) AC for further information.
- Saphenous vein ablation with adhesive injection. See [Saphenous Vein Ablation, Adhesive Injection](#) AC for further information.
- Saphenous vein stripping. See [Saphenous Vein Stripping](#) AC for further information.
- Sclerotherapy. See [Sclerotherapy, Leg Veins](#) AC for further information.
- Stab phlebectomy. See [Stab Phlebectomy](#) AC for further information.

Evidence Summary

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Background

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Endovenous laser ablation of the saphenous vein is a minimally invasive technique that is used to treat symptomatic saphenous vein insufficiency and varicose veins.(20)(21) **(EG 1)** Endovenous laser causes thermal destruction of the venous tissues. Laser energy is delivered through a bare laser fiber that has been passed percutaneously by micropuncture technique to the desired location in the saphenous vein. Ultrasonography is used to confirm and map all areas of reflux as well as to trace the path of the greater saphenous trunk from the saphenofemoral junction down the leg to the upper calf. The procedure can be safely performed in an office setting under local anesthesia.(20)(22)(16) **(EG 1)** Absolute contraindications to endovenous laser ablation include acute deep venous thrombosis and significant lower extremity arterial insufficiency.(20)(23) **(EG 2)**

Criteria

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For saphenous vein incompetence, A specialty society practice guideline states that a cutoff value of 500 msec confirms the diagnosis of saphenofemoral incompetence.(15) **(EG 2)** A systematic review of 59 studies, including 7 studies directly comparing endovenous laser with surgery, found that comparative studies commonly favored endovenous laser over surgery.(24) **(EG 1)** Meta-analyses and systematic reviews have concluded that endovenous laser ablation is at least as effective as conventional surgery, including high ligation and stripping, for the treatment of great saphenous vein varices.(25)(26) **(EG 1)** A meta-analysis comparing endovenous laser with alternative procedures reported that, at a mean follow-up of 32 months, the estimated pooled success rates for stripping, ultrasound-guided foam sclerotherapy, endovenous radiofrequency, and endovenous laser were 78%, 77%, 84%, and 94%, respectively.(27) **(EG 1)** A systematic review and meta-analysis of 49 studies evaluating treatment of small saphenous vein incompetence, 28 of which were studies of endovenous laser ablation, found that the pooled anatomic success rate was highest for endovenous laser ablation at 98.5%, as compared with 58.0% for conventional surgery, 97.1% for radiofrequency ablation, and 63.6% for ultrasound-guided foam sclerotherapy. The authors concluded that endovenous thermal ablation should be preferred over surgery or foam sclerotherapy for the treatment of small saphenous vein incompetence.(28) **(EG 1)** A meta-analysis of 28 randomized controlled trials comparing endovenous ablation and surgical intervention in patients with varicose veins concluded that endovenous ablation (radiofrequency or laser) was associated with lower hematoma and wound infection rates, as well as less pain and quicker return to daily activities.(29) **(EG 1)** A single-center randomized trial of 450 patients with symptomatic great saphenous vein incompetence comparing endovenous laser ablation, indirect radiofrequency ablation, and direct radiofrequency ablation found, at 1-year follow-up, that both laser and indirect radiofrequency ablation were associated with improved occlusion rates compared with direct radiofrequency ablation, with no difference in occlusion rates seen between laser and indirect ablation.(30) **(EG 1)** A randomized controlled trial comparing endovenous laser ablation with radiofrequency ablation found that the 2 techniques had

comparable occlusion rates at 3 months; however, radiofrequency ablation was associated with less periprocedural discomfort.(31) **(EG 1)** Another randomized trial comparing endovenous laser ablation with radiofrequency ablation in 110 patients with varicose veins concluded that the procedures had comparable efficacy and safety at 5-year follow-up.(22) **(EG 1)** A randomized trial of 280 patients with symptomatic varicose veins secondary to saphenous vein incompetence comparing endovenous laser ablation with surgical ligation found, at 5-year follow-up, that laser ablation was associated with a lower clinical recurrence rate (defined as new varicose veins greater than 3 mm in diameter that were not evident before 12 weeks post procedure) and lower venous clinical severity scores compared with surgery.(32) **(EG 1)** A randomized trial of 224 limbs with great saphenous vein varicosities found that both endovenous laser ablation and conventional surgery were more effective at obliterating the great saphenous vein than was ultrasound-guided foam sclerotherapy at 5-year follow-up.(33) **(EG 1)** Another randomized trial of 214 patients confirmed these results at 1 year of follow-up, finding that endovenous laser ablation and conventional surgery were both more effective at occluding the great saphenous vein than was ultrasound-guided foam sclerotherapy.(21) **(EG 1)** A randomized trial of 798 patients with symptomatic varicose veins secondary to saphenous vein reflux comparing laser ablation, foam sclerotherapy, and surgical ligation found, at 5-year follow-up, that while disease-specific quality-of-life (Aberdeen Varicose Vein Questionnaire) scores improved in all treatment groups, both laser ablation and surgical ligation were associated with improved scores compared with foam sclerotherapy.(34) **(EG 1)** A randomized trial of 100 patients with great saphenous vein incompetence found that there was no difference in quality-of-life scores and patient satisfaction at 5-year follow-up between conventional high ligation and stripping and endovenous laser ablation plus high ligation; similar recurrence rates were found on clinical examination and duplex ultrasound.(35) **(EG 1)** A retrospective study of 42 patients with recurrent varicosities of the small saphenous vein after prior ligation with or without stripping found that all 26 patients who underwent endovenous laser ablation achieved technical success. Additional larger studies were recommended.(36) **(EG 2)** A multi-specialty society practice guideline supports vein ablation for symptoms due to saphenous vein incompetence, including varicose veins, edema, skin changes, and ulcers.(8) **(EG 2)** Evidence-based specialty society guidelines recommend endovenous thermal ablation (laser or radiofrequency) rather than ligation and stripping for treatment of greater saphenous vein incompetence.(37)(7)(9)(38) **(EG 2)** A consensus statement indicates that while invasive therapy, compression therapy, and pharmacologic treatment may all offer symptomatic improvement, only invasive treatment has the potential to provide functional improvement.(39) **(EG 2)**

Alternatives

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Compression therapy is sometimes used for treatment of symptomatic venous insufficiency, but patient adherence is the major factor causing failure of compression therapy. Reported rates of nonadherence have ranged from 12% to 60%, even under clinical supervision in venous ulcer clinics.(10)(40) **(EG 1)** Evidence-based clinical guidelines state that patients with confirmed varicose veins and truncal reflux should first be offered endothermal ablation (radiofrequency or laser), ultrasound-guided foam sclerotherapy, or surgery prior to resorting to compression stockings for therapy.(37)(7)(15) **(EG 2)**

Policy History

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History Summary: RMHP uses the current edition MCG guideline for all non-Medicare plans. Medicare plans use the LCD/LCA. Annual review 10/30/2023 with upgrade to MCG 27th edition.

References

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The Centers for Medicare & Medicaid Services Local Coverage Determination (LCD) L34924 Treatment of Chronic Venous Insufficiency of the Lower Extremities, **Original Effective Date** For services performed on or after 10/01/2015, **Revision Effective Date** For services performed on or after 12/27/2020. Reviewed 10/30/2023.

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Footnotes

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[A] Vessels amenable to ablation include the greater saphenous vein, anterior and posterior accessory saphenous veins, and small saphenous vein.(7)(8) [A in Context Link [1](#)]

Codes

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