

Endovenous laser treatment of the long saphenous vein

1 Guidance

- 1.1 Current evidence on the safety and efficacy of endovenous laser treatment of the long saphenous vein appears adequate to support the use of this procedure provided that the normal arrangements are in place for consent, audit and clinical governance. Current evidence on the efficacy of this procedure is limited to case series with up to 3 years follow-up. Clinicians are encouraged to collect longer-term follow up data.

2 The procedure

2.1 Indications

- 2.1.1 Varicose veins are a sign of underlying venous insufficiency and affect 20–30% of adults. Long saphenous vein insufficiency is the most common form of venous insufficiency in people presenting with symptoms.
- 2.1.2 People with venous insufficiency may have symptoms of fatigue, heaviness, aching, throbbing, itching and cramps in the legs. Chronic venous insufficiency can lead to skin discolouration, inflammatory dermatitis, cutaneous infarction and ulceration in some patients.
- 2.1.3 Endovenous laser treatment is a minimally invasive alternative to surgical stripping of the long saphenous vein, which is an important part of the most common operation for varicose veins.

2.2 Outline of the procedure

- 2.2.1 Under ultrasound guidance and local anaesthesia, a catheter is placed into the long saphenous vein. A laser fibre is passed through it and positioned below the saphenofemoral junction. An anaesthetic agent is then injected, and the fibre is slowly withdrawn while energy from a diode laser (810 nm or 940 nm wavelength) is applied in short pulses. This is repeated along the entire length of the vein until the long saphenous vein is closed from the saphenofemoral junction to the point of access.

2.3 Efficacy

- 2.3.1 The evidence for efficacy was based on five case series. In these studies, the mean follow up ranged from 1 to 17 months. Saphenous vein closure rates were between 90% and 100%. One study reported a closure rate of 93.4% in patients followed up for 2 years (113/121 veins), and in 40 patients who were followed up for 3 years, no new recurrences were reported. For more details, refer to the Sources of evidence (see below).
- 2.3.2 Opinion varied among the Specialist Advisors as to the efficacy of the procedure. One Advisor stated that short-term results were favourable but that long-term results were still unknown. A second Advisor commented that durability of the procedure had been established, at least in the medium term, while a third Advisor felt that efficacy had not yet been established.

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This guidance is written in the following context:

This guidance represents the view of the Institute which was arrived at after careful consideration of the available evidence. Health professionals are expected to take it fully into account when exercising their clinical judgement. This guidance does not, however, override the individual responsibility of health professionals to make appropriate decisions in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

2.4 Safety

- 2.4.1 The most common complications reported in the studies were pain and bruising. In a case series report of 423 patients, 90% (381) of patients reported feeling tightness along the limb and 24% (102) of patients experienced bruising; this resolved within 1 month after treatment. Phlebitis was also reported in between 5% (21/423) and 12% (10/85) of patients. For more details, refer to the Sources of evidence (see below).
- 2.4.2 The Specialist Advisors listed the potential complications as sensory loss, skin burns and perforation of deep veins. One Advisor stated that endovenous laser treatment had fewer complications than standard surgical treatment, whereas another Advisor believed that the complication rate was unknown.

2.5 Other comments

- 2.5.1 It was noted that although the procedure may be effective in occluding the vein, few studies have reported on patient-orientated outcomes, such as improvement in symptoms.

3 Further information

- 3.1 A randomised controlled trial is currently under way.

Andrew Dillon
Chief Executive
March 2004

Information for the Public

NICE has produced information describing its guidance on this procedure for patients, carers and those with a wider interest in healthcare. It explains the nature of the procedure and the decision made, and has been written with patient consent in mind. This information is available, in English and Welsh, from www.nice.org.uk/IPG052publicinfo.

Sources of evidence

The evidence considered by the Interventional Procedures Advisory Committee is described in the following document.

Interventional procedure overview of endovenous laser treatment of the long saphenous vein, April 2003.

Available from: www.nice.org.uk/IP209overview2

Ordering information

Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference number N0499. *Information for the Public* can be obtained by quoting reference number N0500 for the English version and N0501 for a version in English and Welsh.

The distribution list for this guidance is available on the NICE website at URL www.nice.org.uk/IPG052distributionlist

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