

Radiofrequency ablation of varicose veins

Interventional procedures guidance

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[nice.org.uk/guidance/ipg8](https://www.nice.org.uk/guidance/ipg8)

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

1 Guidance

- 1.1 Current evidence on the safety and efficacy of radiofrequency ablation of varicose veins appears adequate to support the use of this procedure as an alternative to saphenofemoral ligation and stripping, provided that the normal arrangements are in place for consent, audit and clinical governance.

2 The procedure

2.1 *Indications*

2.1.1 Symptomatic venous insufficiency is common. Saphenous vein insufficiency is the most common form of venous insufficiency in those presenting with symptoms, which include pain, leg fatigue, oedema, skin changes and venous ulcers.

2.2 *Outline of the procedure*

2.2.1 Radiofrequency ablation of varicose veins involves heating the wall of the vein using a bipolar generator and catheters with sheathable electrodes.

2.2.2 The long saphenous vein is accessed above or below the knee, either percutaneously via an intravenous cannula/venepuncture sheath or via a small incision. The catheter is manually withdrawn at 2.5–3 cm/minute, and the vein wall temperature is maintained at 85°C.

2.3 *Efficacy*

2.3.1 Evidence indicated that radiofrequency treatment resulted in immediate occlusion of 90–100% of long saphenous veins. In one study, patients who received radiofrequency ablation had less pain and required less analgesia compared with those who had standard surgery (stripping).

2.3.2 In general, the evidence showed that fewer than 5% of patients continued to have symptoms, such as leg pain, leg fatigue, oedema and noticeable varicose veins, after the procedure. There were high patient satisfaction rates. For more details, refer to the Overview (see 'Sources of evidence').

2.3.3 The Specialist Advisors reported that the long-term results of this procedure were unknown, though in the short-term it seemed efficacious.

2.4 *Safety*

2.4.1 One study showed similar postoperative complication rates of approximately 50% in the radiofrequency ablation and stripping arms, including minor

complications. Other studies showed that skin burns occurred in 2–7% of patients who had radiofrequency ablation. Paraesthesiae occurred in 0–15% of patients, and were more common in patients whose treatment was below the knee. Clinical phlebitis occurred in 2–3% of patients, deep vein thrombosis occurred in 1% and pulmonary embolism was uncommon, occurring in fewer than 1%. For more details, refer to the Overview (see 'Sources of evidence').

2.4.2 The Specialist Advisors reported similar complications to those above.

2.5 *Other comments*

2.5.1 The Committee noted that there were no long-term follow-up data; treated veins may undergo late re-canalisation.

Andrew Dillon
Chief Executive
September 2003

3 Further information

Sources of evidence

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

['Interventional procedure overview of radiofrequency ablation of varicose veins'](#), October 2002.

Information for patients

NICE has produced [information on this procedure for patients and carers](#) ('Understanding NICE guidance'). It explains the nature of the procedure and the guidance issued by NICE, and has been written with patient consent in mind.

4 About this guidance

NICE interventional procedure guidance makes recommendations on the safety and efficacy of the procedure. It does not cover whether or not the NHS should fund a procedure. Funding decisions are taken by local NHS bodies after considering the clinical effectiveness of the procedure and

whether it represents value for money for the NHS. It is for healthcare professionals and people using the NHS in England, Wales, Scotland and Northern Ireland, and is endorsed by Healthcare Improvement Scotland for implementation by NHSScotland.

This guidance was developed using the NICE [interventional procedure guidance](#) process.

We have produced a [summary of this guidance for patients and carers](#). Information about the evidence it is based on is also [available](#).

Changes since publication

31 January 2012: minor maintenance.

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Contact NICE

National Institute for Health and Clinical Excellence
Level 1A, City Tower, Piccadilly Plaza, Manchester M1 4BT

www.nice.org.uk

nice@nice.org.uk

0845 033 7780

Endorsing organisation

This guidance has been endorsed by [Healthcare Improvement Scotland](#).