

# Radiofrequency ablation of varicose veins

## 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 sapheno-femoral 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 The catheter is manually withdrawn at 2.5–3 cm/minute, and the vein wall temperature is maintained at 85°C.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 below).
- 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 below).
- 2.4.2 The Specialist Advisors reported similar complications to those above.

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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.

## 2.5 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

## 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 from [www.nice.org.uk/IPG008publicinfoenglish](http://www.nice.org.uk/IPG008publicinfoenglish) and bilingually in English and Welsh from [www.nice.org.uk/IPG008publicinfowelsh](http://www.nice.org.uk/IPG008publicinfowelsh).

## 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.

Available from:  
<http://www.nice.org.uk/ip132overview>

### Ordering information

Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference: N0269. *Information for the Public* can be obtained by quoting reference number N0270 for the English version and N0271 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/IPG008distributionlist](http://www.nice.org.uk/IPG008distributionlist)

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