

# Radiofrequency ablation of the soft palate for snoring

## 1 Guidance

- 1.1 Current evidence suggests that there are no major safety concerns associated with radiofrequency ablation (RFA) of the soft palate for snoring. However, evidence on the short-term efficacy is limited and long-term outcomes are uncertain. Therefore, this procedure should not be used without special arrangements for audit, consent and research.
- 1.2 Clinicians wishing to undertake radiofrequency ablation of the soft palate for snoring should take the following actions.
- Inform the clinical governance leads in their Trusts.
  - Ensure that patients understand the uncertainty about the procedure's efficacy and that they are fully informed about alternative treatment options, including lifestyle changes. Patients should also be provided with clear written information, and use of the Institute's *Information for the public* is recommended.
  - Audit and review clinical outcomes of all patients having radiofrequency ablation of the soft palate for snoring.
- 1.3 Publication of efficacy outcomes will be useful. The Institute may review the procedure upon publication of further evidence.

## 2 The procedure

### 2.1 Indications

- 2.1.1 Snoring is a noisy inspiratory sound produced by vibrations and partial obstruction in the oropharynx. It is a form of sleep-disordered breathing, and can lead to disrupted sleep, subsequent daytime tiredness and poor concentration. The condition is different from sleep apnoea.
- 2.1.2 Conservative treatments involve lifestyle changes, including weight loss, avoidance of alcohol and sedatives, smoking cessation and sleep position

training. Physical appliances have also been used to maintain normal airflow dynamics during sleep. Alternative interventions include procedures to address pharyngeal obstruction, including laser-assisted uvulopalatoplasty (LAUP) and uvulopalatopharyngoplasty (UPPP).

### 2.2 Outline of the procedure

- 2.2.1 Radiofrequency ablation of the soft palate aims to reduce the volume of the palatal tissue and to improve the texture of the remaining palate, so that it becomes more dynamically stable.
- 2.2.2 The procedure is usually done on an outpatient basis using topical local anaesthesia. An electrode delivery device is used to direct radiofrequency energy, commonly to the mid-portion of the palate from the uvular base to the posterior nasal spine. In addition, two lateral applications are often given at a reduced energy level.

### 2.3 Efficacy

- 2.3.1 A small controlled study compared people who had RFA with those who had slept with an oral appliance in place. RFA improved snoring as assessed by patients' spouses on a 1 to 10 scale from 7.5 ( $\pm$  2.5) at baseline to 2.8 ( $\pm$  2.2) at 8 weeks ( $p < 0.001$ ). However, laboratory sleep assessment showed no significant difference between the two groups in the proportion of time spent snoring loudly. A randomised controlled study involving 17 patients found snoring loudness, as measured on a visual analogue scale, to be significantly improved following RFA, with scores falling from 7.5 ( $\pm$  2.1) at baseline to 3.1 ( $\pm$  2.6) at week 16. However, objective evaluation of snoring using digital audio monitoring found no significant improvement at the same time point and no intergroup comparisons were undertaken.

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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.

Interventional procedures guidance is for health professionals and people using the NHS in England, Wales and Scotland.

This guidance is endorsed by NHS QIS for implementation by NHSScotland.

- 2.3.2 A case series of 60 patients undergoing RFA found that the mean snoring score was reduced from 9.0 at baseline to 3.5 at 12 months. In a small case series, symptoms were improved (as defined by a 3-point fall in snoring score) in 58% (11/19) of patients at 3 months and in 63% (12/19) at 9.5 months. A case series of 22 patients with a maximum follow-up of 12 weeks found a significant decrease in partner-assessed snoring disturbance from 8.3 ( $\pm$  1.8) to 1.9 ( $\pm$  1.2) and a decrease in daytime tiredness. For more details, refer to the Sources of evidence.
- 2.3.3 The Specialist Advisors considered patient selection to be important. One Advisor also noted that RFA often requires repeated applications.

## 2.4 Safety

- 2.4.1 A comparative study of 41 patients comparing RFA, LAUP and UPPP found the mean duration of pain to be significantly shorter following RFA (2.5 days compared with 14 days for the other procedures). Ten days after the RFA, pain was rated zero on a visual analogue scale. A small randomised controlled trial reported that pain persisted for an average of 7 days following RFA (n = 10) compared with 15 days following LAUP (n = 7).
- 2.4.2 In a case series of 60 patients undergoing RFA, adverse events included 'longer pain than expected' in 10% (6/60) of patients, and bleeding requiring a visit to an emergency department in 2% (1/60). A case series of 20 patients noted mucosal ulcers in 40% (8/20) of patients. Antibiotics were received by 20% (4/20) of patients. Following 117 treatments in the RFA arm of a comparative study, minor submucosal erosion was reported on 11 occasions (8%) – this resolved spontaneously within 7–21 days.
- 2.4.3 Neither a small randomised controlled trial nor a case series of 22 patients followed up for 12 weeks reported any serious side effects such as swallowing or speech difficulties, bleeding, infection or pain. For more details, refer to the Sources of evidence.

- 2.4.4 The Specialist Advisors had no major concerns about the safety of this procedure, but noted potential risks as haemorrhage, secondary infection and palatal ulceration.

Andrew Dillon  
Chief Executive  
May 2005

### 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/IPG124publicinfo](http://www.nice.org.uk/IPG124publicinfo)

### 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 the soft palate for snoring*, September 2004

Available from [www.nice.org.uk/ip260overview](http://www.nice.org.uk/ip260overview)

### Ordering information

Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference number N0857. *Information for the public* can be obtained by quoting reference number N0858.

The distribution list for this guidance is available from [www.nice.org.uk/IPG124distributionlist](http://www.nice.org.uk/IPG124distributionlist)

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