

# Percutaneous disc decompression using coblation for lower back pain

## 1 Guidance

1.1 Current evidence suggests that there are no major safety concerns associated with the use of percutaneous disc decompression using coblation for lower back pain. There is some evidence of short-term efficacy; however, this is not sufficient to support the use of this procedure without special arrangements for consent and for audit or research.

1.2 Clinicians wishing to undertake percutaneous disc decompression using coblation for lower back pain 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 provide them with clear written information. Use of the Institute's *Information for the public* is recommended (available from [www.nice.org.uk/IPG173publicinfo](http://www.nice.org.uk/IPG173publicinfo)).
- Audit and review clinical outcomes of all patients having percutaneous disc decompression using coblation for lower back pain.

1.3 Further research will be useful in reducing the current uncertainty, and clinicians are encouraged to collect long-term follow-up data. The Institute may review the procedure upon publication of further evidence.

## 2 The procedure

### 2.1 Indications

2.1.1 Chronic back pain is a common condition. In most individuals the pain resolves spontaneously within several months. However, for some people the pain persists, despite specific causes of back pain – such as herniated discs, osteoporosis and fractures

– being excluded. Increasingly, this pain is being attributed to degeneration of the intervertebral disc, and is referred to as discogenic back pain.

2.1.2 Typically, first-line treatment for chronic discogenic back pain is conservative, consisting of medication and/or a multidisciplinary programme which may include exercises, education and behavioural therapy. If the pain does not improve, patients can choose whether to continue with conservative management or to undergo surgery (spinal fusion). Potential candidates for percutaneous disc decompression using coblation are patients with back and leg pain caused by contained herniated discs.

### 2.2 Outline of the procedure

2.2.1 Percutaneous disc decompression using coblation is usually performed on an outpatient basis under local anaesthesia and sedation. Under fluoroscopic guidance, a needle is inserted into the affected disc. A probe-like device is then introduced into the disc. The device is heated up to 40–70°C, ablating the centre of the disc and creating a channel. After stopping at a pre-determined depth, the probe is then removed, coagulating the tissue as it is withdrawn. Around six channels are created during the procedure, the number of channels depending on the amount of tissue reduction required.

### 2.3 Efficacy

2.3.1 The evidence for this procedure comes from four case series studies. Twelve-month follow up data is available on 1472 patients from three of these studies. In the largest of these an excellent result (as defined by resolution of symptoms and full

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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. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. This guidance does not, however, override the individual responsibility of healthcare 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 healthcare professionals and people using the NHS in England, Wales and Scotland.

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

daily activity) was achieved in 51% of patients at 15 days postoperatively and 56% of patients at 1 year. In another case series 75% (52/69) of patients indicated a decrease in pain score at 12 months, with 54% (37/69) of patients indicating pain relief of 50% or more at final follow-up. Some patients also reported improvements in sitting (37/69), standing (30/69) and walking (34/69) 12 months after the procedure. For more details, refer to the 'Sources of evidence' section.

2.3.2 The lack of data makes it difficult to draw conclusions regarding the efficacy of the procedure. The lack of long-term and comparative data also makes it difficult to distinguish between the treatment effect and the natural history of the disease, or to determine whether the benefits of this procedure are sustained beyond 12 months.

2.3.3 The Specialist Advisors expressed uncertainty regarding the efficacy of this procedure.

## 2.4 Safety

2.4.1 One large case series reported no operative complications among 1390 patients, although 5% of cases reported postural lumbar pain and muscle contraction at up to 10 days follow-up. In two of the three studies the authors stated that no complications were observed during or after the procedure. It is difficult to know, however, whether this is because complications are uncommon or whether complications were not systematically detected and reported. For more details, refer to the 'Sources of evidence' section.

2.4.2 The Specialist Advisors did not report any particular safety concerns, although nerve root damage, infection, haemorrhage and worsening pain were listed as potential complications.

## 2.5 Other comments

2.5.1 There is a lack of long-term efficacy data.

## 3 Further information

3.1 The Institute has issued guidance on percutaneous intradiscal electrothermal therapy ([www.nice.org.uk/IPG081](http://www.nice.org.uk/IPG081)) and percutaneous intradiscal radiofrequency thermocoagulation ([www.nice.org.uk/IPG083](http://www.nice.org.uk/IPG083)).

Andrew Dillon  
Chief Executive  
May 2006

## 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/IPG173publicinfo](http://www.nice.org.uk/IPG173publicinfo)

## Sources of evidence

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

'Interventional procedure overview of percutaneous disc decompression using coblation for lower back pain', January 2004.

Available from: [www.nice.org.uk/ip235overview](http://www.nice.org.uk/ip235overview)

## Ordering information

Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference number N1037. *Information for the public* can be obtained by quoting reference number N1038.

The distribution list for this guidance is available at [www.nice.org.uk/IPG173distributionlist](http://www.nice.org.uk/IPG173distributionlist)

Published by the National Institute for Health and Clinical Excellence, May 2006; ISBN 1-84629-211-5

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