

Open femoro–acetabular surgery for hip impingement syndrome

1 Guidance

- 1.1 Current evidence on the safety and efficacy of open femoro–acetabular surgery for hip impingement syndrome does not appear adequate for this procedure to be used without special arrangements for consent and for audit or research.
- 1.2 Clinicians wishing to undertake open femoro–acetabular surgery for hip impingement syndrome should take the following actions.
- Inform the clinical governance leads in their Trusts.
 - Ensure that patients understand the uncertainty about the safety and efficacy of the procedure in both the short and long term, and provide them with clear written information. Use of the Institute's information for patients ('Understanding NICE guidance') is recommended (available from www.nice.org.uk/IPG203publicinfo).
 - Audit and review clinical outcomes of all patients having open femoro–acetabular surgery for hip impingement syndrome (see section 3.1).
- 1.3 Publication of safety and 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 Hip impingement syndrome, or femoro–acetabular impingement, is a result of abnormality in the femoral head, acetabulum, or both. Impingement can be caused by jamming of an abnormally shaped femoral head into the acetabulum during forceful motion (especially

flexion), or as a result of contact between the acetabular rim and the femoral head–neck junction. Its precise relationship with osteoarthritis of the hip is unclear but it may lead to the development of osteoarthritis.

- 2.1.2 Symptoms may include restriction of movement, 'clicking' of the hip joint and pain, and can occur or be exacerbated during hip flexion resulting from sporting activity, or after prolonged sitting.
- 2.1.3 The management of hip impingement syndrome may begin with a trial of conservative measures, including modification of activity to reduce excessive motion and burden on the hip. Non-steroidal anti-inflammatory drugs can be useful in patients with acute onset. However, they may mask ongoing pathological processes, leading to further degenerative changes and more pain. Patients with advanced osteoarthritic degeneration may require a total hip replacement.

2.2 Outline of the procedure

- 2.2.1 The aim of femoro–acetabular surgery for hip impingement syndrome is to improve the range of movement of the hip joint and alleviate femoral abutment against the acetabular rim. The procedure is performed under general or regional anaesthesia. The hip is dislocated to expose the femoral head and acetabulum, using a method that preserves the blood supply to the femoral head. Non-spherical sections of the femoral head and prominent sections of the anterior femoral neck are removed. If there is an excessive acetabular rim, this can be treated by resection osteoplasty or, in cases of a retroverted acetabulum, by a peri-acetabular osteotomy. After femoral and acetabular osteoplasty are completed, the hip is re-located and the range of motion and any residual impingement are evaluated.

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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, Scotland and Northern Ireland.

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

2.3 Efficacy

- 2.3.1 One non-randomised controlled trial reported that there was a significant improvement in overall clinical outcome at 2 years when the procedure included acetabular resection (baseline score 12 points; 2-year score 15 points; $p < 0.0009$) or refixation of the acetabulum after resection (baseline score 12 points; 2-year score 17 points; $p < 0.0001$). Patients treated with refixation had a significantly better overall clinical outcome at 2 years ($p < 0.01$).
- 2.3.2 In a case series of 213 treated hips (minimum follow-up 2 years), most patients had an improved range of movement and a reduction in pain. In a second case series, surgery produced a good or excellent result in 90% (26/29) of hips. A third case series reported that, at 5.2 years' follow-up, 65% (15/23) of patients had functioning hips and had not required further surgery. For more details, refer to the 'Sources of evidence' section.
- 2.3.3 The Specialist Advisers noted that there is some evidence of short-term pain reduction, but there are no long-term efficacy data to show whether the procedure slows degenerative changes.

2.4 Safety

- 2.4.1 Few of the studies reported in any detail on the safety of the procedure.
- 2.4.2 One non-randomised controlled study of 52 patients (60 hips) treated with the procedure reported no surgical complications. In a case series of 23 patients with more than 5 years' follow-up, no cases of avascular necrosis were reported. Similarly, there were no reports of avascular necrosis or postoperative infection in a series of 213 hips. However, heterotopic ossification was seen in 37% (79/213) of hips at 1 year of follow-up. For more details, refer to the 'Sources of evidence' section.
- 2.4.3 The Specialist Advisers noted that the following adverse events have been reported in the literature or anecdotally: sciatic nerve neurapraxia, heterotopic ossification, femoral fracture and avascular necrosis of the femoral head. They also noted the theoretical risks of deep-vein thrombosis, pulmonary embolisation and deep infection.

Ordering information

Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference number N1189. 'Understanding NICE guidance' can be obtained by quoting reference number N1190.

The distribution list for this guidance is available at www.nice.org.uk/IPG203distributionlist

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Interventional procedures guidance makes recommendations on the safety and efficacy of a procedure. The guidance does not cover whether or not the NHS should fund a procedure. Decisions about funding are taken by local NHS bodies (primary care trusts and hospital trusts) after considering the clinical effectiveness of the procedure and whether it represents value for money for the NHS.

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3 Further information

- 3.1 This guidance requires that clinicians undertaking the procedure make special arrangements for audit. The Institute has identified relevant audit criteria and developed an audit tool (which is for use at local discretion), available from www.nice.org.uk/IPG203
- 3.2 The Institute is also developing guidance on arthroscopic femoro-acetabular surgery for hip impingement syndrome (www.nice.org.uk/ip_365).

Andrew Dillon
Chief Executive
January 2007

Information for patients

NICE has produced information describing its guidance on this procedure for patients and their carers ('Understanding NICE guidance'). 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/IPG203publicinfo

Sources of evidence

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

'Interventional procedure overview of open femoro-acetabular surgery for hip impingement syndrome', June 2006.

Available from: www.nice.org.uk/IP243overview