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Arthroscopic femoro–acetabular surgery for hip impingement syndrome

1 Guidance

1.1 Current evidence on the safety and efficacy of arthroscopic 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 use arthroscopic 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 procedure's safety and efficacy in both the short and the 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/IPG213publicinfo).
- Audit and review clinical outcomes of all patients having arthroscopic femoro–acetabular surgery for hip impingement syndrome (see section 3.1).

1.3 The procedure should only be performed by surgeons with specialist expertise in arthroscopic hip surgery.

1.4 The natural history of hip impingement syndrome and the selection of patients for this procedure are uncertain; further research on these issues 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, 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.

2.2 Outline of the procedure

2.2.1 The aim of arthroscopic 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 carried out under general anaesthesia. The hip is subluxed using leg traction. An arthroscope and surgical instruments are inserted into the hip through two or three portals. Non-spherical sections of the femoral head and prominent sections of the anterior femoral neck are resected to improve the offset of the femoral neck and increase clearance in the joint. Labral lesions are debrided using a shaver or radiothermal device, and femoral and acetabular osteoplasty are achieved where necessary with a burr. The range of motion and any residual impingement are evaluated.

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2.3 Efficacy

2.3.1 Efficacy outcomes were poorly reported in the two studies identified; assessments were mostly qualitative.

2.3.2 In one case series of 158 patients undergoing arthroscopic femoro–acetabular surgery, resolution of impingement signs on clinical evaluation was reported in nearly all patients. In the majority of patients, pain was reduced by 50% at 3 months, 75% at 5 months and 95% at 1 year (the study did not specify how pain reduction was measured). Overall, 2% (3/158) of patients required a total hip replacement at a mean follow-up of 22 months. In another case series of 10 patients, the mean non-arthritic hip score on the McCarthy scale improved from 75 points to 95 points at 14 months' follow-up.

2.3.3 The Specialist Advisers highlighted that validated scores for evaluation of clinical outcomes have not yet been developed. Significant improvement in symptoms and delay or prevention of total hip replacement may be useful outcome measures.

2.4 Safety

2.4.1 The evidence on safety was based on one case series. A pathological non-displaced fracture that required closed pinning occurred in 1 of 158 patients (< 1%) undergoing arthroscopic femoro–acetabular surgery for hip impingement.

2.4.2 The Specialist Advisers considered the key safety outcomes to be similar to those for any arthroscopic hip intervention. These include infection, deep vein thrombosis, hip fracture and late-onset avascular necrosis of the femoral head.

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/IPG213

3.2 The Institute has issued guidance on open femoro–acetabular surgery for hip impingement syndrome (www.nice.org.uk/IPG203).

Andrew Dillon
Chief Executive
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Information for patients

The Institute has produced information describing its guidance on this procedure for patients ('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/IPG213publicinfo

Sources of evidence

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

'Interventional procedure overview of arthroscopic femoro–acetabular surgery for hip impingement syndrome', September 2006.

Available from: www.nice.org.uk/IP365overview

Ordering information
Copies of this guidance can be obtained from the NHS Response Line by telephoning 0870 1555 455 and quoting reference number N1222. 'Understanding NICE guidance' can be obtained by quoting reference number N1223.

The distribution list for this guidance is available at www.nice.org.uk/IPG213distributionlist

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National Institute for Health and Clinical Excellence
MidCity Place, 71 High Holborn, London WC1V 6NA; www.nice.org.uk

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