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NHS
National Institute for Health and Clinical Excellence

Arthroscopic femoro–acetabular surgery for hip impingement syndrome

This document replaces previous guidance on arthroscopic femoro–acetabular surgery for hip impingement syndrome (interventional procedure guidance 213).

1 Guidance

1.1 Current evidence on the efficacy of arthroscopic femoro–acetabular surgery for hip impingement syndrome is adequate in terms of symptom relief in the short and medium term. With regard to safety, there are well recognised complications. Therefore this procedure may be used provided that normal arrangements are in place for clinical governance, consent and audit with local review of outcomes.

1.2 The British Hip Society is establishing a register for arthroscopic femoro–acetabular surgery for hip impingement syndrome and clinicians should submit details of all patients undergoing this procedure to the register once it is available. A prime purpose of the register is to provide information about long-term outcomes. It is important that both the register and other studies report details of patient selection to allow clear understanding of these outcomes.

1.3 Arthroscopic femoro–acetabular surgery for hip impingement syndrome should only be carried out by surgeons with specialist expertise in arthroscopic hip surgery.

2 The procedure

2.1 Indications and current treatments

2.1.1 Hip or femoro–acetabular impingement results from abnormalities of the femoral head or the acetabulum. It can be caused by jamming of an abnormally shaped femoral head into the acetabulum, or by contact between the acetabular rim and the femoral head–neck junction. It is believed that it may lead to the development of osteoarthritis.

2.1.2 Symptoms may include restriction of hip-joint movement, pain and 'clicking' of the hip. Symptoms are typically exacerbated by hip flexion or prolonged sitting.

2.1.3 The management of hip impingement syndrome includes conservative measures, such as modification of activity and non-steroidal anti-inflammatory medication. Surgical treatment options include open femoro–acetabular hip impingement surgery. Patients with advanced osteoarthritic degeneration may require a total hip replacement.

2.2 Outline of the procedure

2.2.1 The aim of arthroscopic femoro–acetabular surgery for hip impingement syndrome is to reduce pain and improve the hip-joint range of movement.

2.2.2 The procedure is carried out with the patient under general anaesthesia. The hip is distracted using leg traction and an arthroscope and surgical instruments are inserted into the joint. Non-spherical sections of the femoral head, and prominent sections of the anterior femoral neck and acetabular rim, are resected. Labral lesions are debrided using a shaver or radiothermal device, and the labrum may be repaired.

Sections 2.3 and 2.4 describe efficacy and safety outcomes from the published literature that the Committee considered as part of the evidence about this procedure. For more detailed information on the evidence, see the overview, available at **www.nice.org.uk/guidance/IP/365/overview**

Interventional procedure guidance 408

This guidance makes recommendations on the safety and efficacy of the procedure. It does not cover whether or not the NHS should fund a procedure. Funding decisions are taken by local NHS bodies after considering the clinical effectiveness of the procedure and whether it represents value for money for the NHS.

This guidance is for healthcare professionals and people using the NHS in England, Wales, Scotland and Northern Ireland, and is endorsed by NHS QIS for implementation by NHSScotland.

2.3 Efficacy

2.3.1 In a non-randomised controlled study comparing arthroscopic femoro–acetabular impingement surgery with labral refixation (36 hips) versus arthroscopic femoro–acetabular impingement surgery with labral debridement (39 hips), mean Harris hip score (HHS) (on a scale 0–100; higher scores better) was 94.3 points and 88.9 points respectively at 1-year follow-up ($p = 0.029$; both groups improved from baseline but these figures were not reported).

2.3.2 A case series of 200 patients (207 hips) reported a mean improvement in HHS of 20 points from baseline at a mean follow-up of 16 months (significance not stated); 1 patient required total hip arthroplasty after 8 months due to persistent pain.

2.3.3 The case series of 112 patients reported improvement in mean activities of daily living score (scoring system not described) from 70.0 points at baseline to 87.8 points at 2.3-year follow-up ($p < 0.001$). Mean sport activity score (scoring system not described) improved from 43.0 points at baseline to 69.0 points at 2.3-year follow-up ($p < 0.001$).

2.3.4 A case series of 110 patients reported that 77% (85/110) of patients were satisfied or very satisfied with their treatment at 10-month follow-up.

2.3.5 The case series of 110 patients reported a significant improvement in femoral head–neck offset angle from 64.6° at baseline to 50.6° at 10-month follow-up ($p < 0.001$).

2.3.6 The Specialist Advisers listed key efficacy outcomes as pain relief and delayed progression to osteoarthritis.

2.4 Safety

2.4.1 A case series of 183 patients (194 hips) reported pathological fracture in 1% (2/183) of patients. A case series of 97 patients (100 hips) reported femoral neck fracture (healed without surgery) in 1 patient.

2.4.2 A case series of 97 patients (100 hips) reported no occurrence of avascular necrosis following the procedure. A case report described femoral head osteonecrosis following arthroscopic femoro–acetabular surgery for pincer impingement, which required arthroscopic decompression and bone marrow graft.

2.4.3 The case series of 200 patients reported neurapraxia of the lateral femoral cutaneous nerve (resolved at 1-month follow-up) in 1 out of 207 hips. The case series of 110 patients reported 1 case of femoral neurapraxia which resolved 'within a few months'.

2.4.4 The non-randomised controlled study of 75 hips reported heterotopic ossification in 8% (3/36) of patients treated with labral debridement and in 0% (0/39) of patients undergoing labral refixation at a mean 19-month follow-up (significance not stated). Heterotopic ossification was reported in 1 out of 207 hips in the case series of 200 patients with a mean follow-up of 16 months.

2.4.5 The Specialist Advisers listed adverse events seen or reported in the literature as genital and perineal trauma from the traction post, neurological damage (sometimes related to traction), infection, postoperative hip dislocation, haemorrhage and instrument breakage. They considered theoretical adverse events to include iatrogenic articular cartilage damage.

2.5 Other comments

2.5.1 The Committee noted that the available evidence was from observational studies. While this was considered adequate for the present recommendation, further studies would be useful. The Committee recognised the difficulties of comparative research and acquisition of long-term data on this procedure.

2.5.2 This guidance relates to the use of arthroscopic hip surgery for femoro–acetabular impingement syndrome and not other indications.

3 Further information

3.1 For related NICE guidance see **www.nice.org.uk**

Information for patients

NICE has produced information on this procedure for patients and carers ('Understanding NICE guidance'). It explains the nature of the procedure and the guidance issued by NICE, and has been written with patient consent in mind. See **www.nice.org.uk/guidance/IPG408/publicinfo**

Ordering printed copies
Contact NICE publications (phone 0845 003 7783 or email publications@nice.org.uk) and quote reference number N2604 for this guidance or N2605 for the 'Understanding NICE guidance'.

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