NICE guidance

Arthroscopic femoro–acetabular surgery for hip impingement syndrome

Interventional procedures guidance
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www.nice.org.uk/guidance/ipg408

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful

discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

This guidance replaces IPG213.

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.

2.3 Efficacy

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.

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 to 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 out of 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 out of 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 out of 36) of patients treated with labral debridement and in 0% (0 out of 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

Sources of evidence

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

Information for patients

NICE has produced information for the public on this procedure. It explains the nature of the procedure and the guidance issued by NICE, and has been written with patient consent in mind.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.