The management of labral tears and femoroacetabular impingement of the hip in the young, active patient

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CRD summary
This review compared arthroscopic techniques with open surgical techniques for treatment of femoro-acetabular impingement of the hip and labral pathology. The authors concluded that arthroscopic and open surgical techniques are equally effective in achieving satisfactory clinical outcomes, though the quality of the literature is limited. Potential for various biases in the review made the reliability of the conclusions unclear.

Authors' objectives
To evaluate the effectiveness of arthroscopic techniques compared with open surgical techniques in achieving satisfactory clinical outcomes in the treatment of femoro-acetabular impingement of the hip and labral pathology.

Searching
MEDLINE, EMBASE and The Cochrane Library databases were searched from January 1980 to May 2008 (search terms were reported). Reference lists of retrieved articles were searched for additional studies. Only English-language studies were included.

Study selection
Level I to IV studies in which labral tear and/or femoro-acetabular impingement was the major diagnosis and in which the labrum and/or femoro-acetabular impingement received an intervention were eligible for inclusion. Studies of patients with concomitant severe pre-existing hip osteoarthritis and severe acetabular dysplasia were excluded.

Patients in the included studies had a mean age ranging from 22 to 41 years. Most studies were level IV design (case series) with a mean follow up ranging from 10 to 60 months. Open surgical procedures included surgical dislocation, osteoplasty, labral debridement and arthroscopic surgical procedures included arthroscopy, labral debridement and/or repair, loose body removal and osteoplasty. A variety of outcome measures were included (such as Merle d'Aubigne outcomes instrument, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), Harris Hip Score, return-to-play outcomes and subjective questionnaires).

One reviewer performed the initial search, which was independently checked by several other reviewers.

Assessment of study quality
The authors did not state that validity assessment was performed.

Data extraction
The authors stated neither how data were extracted for the review nor how many reviewers performed the data extraction.

Methods of synthesis
The studies were presented in a narrative synthesis by type of surgical technique (open surgical and arthroscopic). Tables of primary studies were available for examination of between-study differences.

Results of the review
Nineteen studies were included (n=468: open surgery n=197 and arthroscopy n=271) (number of hips=569: 179 open surgery and 390 arthroscopy): 18 studies of level IV design and one level III design.

In the open surgical series studies a range of 65% to 94% good to excellent outcomes were reported. The failure rate (defined as a dissatisfied patient and/or conversion to total hip arthroplasty) ranged from 4% to 30%.
In the arthroscopic surgical series studies a range of 67% to 93% good to excellent outcomes were reported. The failure rate ranged from 1% to 33%.

**Authors' conclusions**

Arthroscopic techniques were as effective as open surgical techniques in achieving satisfactory clinical outcomes in the treatment of femoro-acetabular impingement and labral pathology, although the quality of the literature was limited.

**CRD commentary**

The research question was supported by inclusion criteria for participants, intervention and study design. Relevant databases were searched, but only English-language studies were sought, which made the review prone to language and publication biases. Study selection was checked independently, which reduced possible error and bias; it was unclear whether data extraction was treated similarly. Validity of the included studies was not assessed and the studies were of poor quality study design, so the reliability of their results is uncertain. The choice of a narrative synthesis appeared appropriate given the data available. The authors' conclusions reflected the data presented, but the potential for various biases in the review made their reliability unclear.

**Implications of the review for practice and research**

**Practice**: The authors did not state any implications for practice.

**Research**: The authors stated that prospective data collection and consistent use of validated outcomes instruments was required to improve study design. Implementation of new outcomes instruments focused on young patients with non-arthritic hip problems would allow further differentiation of the success of surgical techniques.

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