Endoscopic versus rear-entry ACL reconstruction: a systematic review
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CRD summary
This review compared all-endoscopic with rear-entry methods for anterior cruciate ligament reconstruction, and concluded that the outcomes were similar for the two techniques. The authors’ conclusions were based on a small number of studies for which few details were reported and no quality assessment was undertaken. The results may not be generalisable to the use of these procedures by general orthopaedists.

Authors' objectives
To evaluate all-endoscopic and rear-entry methods for anterior cruciate ligament (ACL) reconstruction.

Searching
MEDLINE, EMBASE and EBM databases (including the Cochrane Database of Systematic Reviews, ACP Journal Club, DARE and the Cochrane CENTRAL Register) were searched from January 1966 to October 2005; the search terms were reported. A handsearch of articles over the 6 months prior to July 2006 was also undertaken. Inclusion was restricted to publications in the English language.

Study selection
Study designs of evaluations included in the review
Prospective randomised clinical trials (RCTs) were eligible for inclusion. The mean follow-up was 23.3 months (range: 12 to 42).

Specific interventions included in the review
Studies comparing all-endoscopic (all-inside or single-incision) with rear-entry (outside-in or two-incision) treatments for ACL were included. All studies used bone-patellar tendon-bone autograph.

Participants included in the review
Studies of patients undergoing ACL reconstruction were eligible for inclusion. The mean age of the participants was 26 to 28 years; no further participant details were provided.

Outcomes assessed in the review
There were no inclusion criteria relating to the outcomes. The outcomes included operating time, length of hospital stay, activity level, instrumented laxity, range of motion, strength, pain, knee scores and complications.

How were decisions on the relevance of primary studies made?
The authors did not state how the studies were selected for the review, or how many reviewers performed the study selection.

Assessment of study quality
Three reviewers independently evaluated the studies using a worksheet adapted from evidence-based guides, and assessed whether studies were level 1, but did not assess study quality.

Data extraction
The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction. Data were extracted for statistically significant outcomes as proportional increases or decreases; other reported outcomes were only stated as being not significant.

Methods of synthesis
How were the studies combined?
The studies were described narratively.
How were differences between studies investigated?

Limited study characteristics were tabulated and differences were discussed in the text.

**Results of the review**

Four RCTs (n=209) were included in the review.

Operative time was shorter in the all-endoscopic groups in 2 studies (p=0.03). One study reported that a higher percentage of patients in the rear-entry group had a difference of 3 mm or less on the KT-2000 arthrometer, but this was not statistically significant. The same study reported that a 6% higher rate of return to full activity was achieved in patients undergoing the rear-entry technique (p<0.02). All of the studies were similar with respect to pain medication used, progression of rehabilitation, range of motion, quadriceps or hamstring strength, patellofemoral pain, Lysholm, Tegner and International Knee Documentation Committee scores.

**Authors’ conclusions**

Outcomes were similar between the all-endoscopic and rear-entry ACL reconstruction techniques.

**CRD commentary**

The review addressed a clear question with the criteria clearly stated. The authors undertook a comprehensive search for published literature, but unpublished studies were not sought, thus increasing the potential for publication bias. In addition, restricting the search to English language studies indicates the potential for language bias. It is unclear whether efforts were made to minimise error and bias during the review process, as this was poorly reported. The use of a narrative synthesis seems appropriate. The authors’ conclusions appear to reflect the evidence presented. However, the number of trials included was small (only 209 patients in total), few study details were provided, and no quality assessment undertaken; this makes the reliability of the evidence on which the conclusions are based, uncertain. There are also possible issues regarding the generalisability of the findings, as these may not reflect the outcomes that would be achieved if the procedures were undertaken by general orthopaedists.

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

The authors did not state any implications for practice or further research.

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