The treatment of traumatic anterior instability of the shoulder: nonoperative and surgical treatment

Brophy RH, Marx RG

CRD summary
This review compared outcomes of treatment for traumatic anterior instability of the shoulder, concluding that surgical interventions reduced the rates of recurrent instability; arthroscopic and open approaches, using suture anchors, yielded comparable outcomes. Given the shortcomings highlighted for the review process, paucity of experimental studies and small sample sizes, the authors' conclusions should be interpreted with extreme caution.

Authors' objectives
To assess the treatment of traumatic anterior instability of the shoulder comparing surgical treatment versus non-operative treatment for first-time traumatic dislocation and open stabilisation versus arthroscopic stabilisation for traumatic anterior shoulder stabilisation; the main focus was techniques using suture anchor fixation.

Searching
MEDLINE was searched for English-language studies from 1966 to May 2008. Search terms were reported. Reference lists of review articles were searched for additional studies.

Study selection
Studies that compared surgical treatment to non-operative treatment for first-time traumatic anterior shoulder dislocation were eligible for inclusion, as were studies that compared open surgical treatment to arthroscopic surgical treatment using suture anchors for anterior shoulder instability. Studies that did not use suture anchors were excluded, as were those where a bone block procedure was used or components of instability other than anterior were present. The main outcome was the rate of recurrent instability, plus outcome scores for instability based on a number of scales, or the Rowe score.

Included studies comprised randomised controlled trials (RCTs), cohorts and case-control studies. The mean age of participants in studies comparing surgical treatment to non-operative treatment was less than 23.3 years; for studies comparing open surgical treatment to arthroscopic surgical treatment the mean age ranged between 20 to 35 years. The majority of patients were males.

The authors did not state how the papers were selected for review, or how many reviewers performed the selection.

Assessment of study quality
Levels of evidence were reported.

The authors did not state that they assessed validity.

Data extraction
For each study, the rate of recurrent instability and outcome scores were extracted.

The authors did not state how many reviewers performed the data extraction.

Methods of synthesis
A narrative synthesis was reported, supported by tables. Post-hoc sensitivity analyses were conducted by age and levels of evidence.

Results of the review
A total of 14 studies were included in the review. Six studies compared surgical treatment to non-operative treatment for first-time traumatic anterior shoulder dislocation (n=266 patients, range 21 to 76). Eight studies compared open surgical treatment to arthroscopic surgical treatment (n=462 patients, range 17 to 93). Mean follow-up ranged from 23 to 120 months.

At two years follow-up, surgical treatment produced significantly lower rates of recurrent instability (7%) compared with non-surgical treatment (46%). Rates of recurrent instability remained lower in patients undergoing surgical treatment (10%), compared with non-surgical treatment (58%), with longer periods of follow-up (up to 10 years). The rates of recurrent instability were comparable for open surgical treatment (8.2%) compared with arthroscopic surgical treatment using suture anchors (6.4%).

**Authors’ conclusions**
Following a first-time anterior shoulder dislocation, surgical interventions reduced the rates of recurrent instability compared with non-operative treatment, particularly in young active males. Where surgical treatment was indicated, an arthroscopic approach using suture anchors produced similar results to an open approach.

**CRD commentary**
The review question and inclusion criteria were clear, with the exception of criteria for outcomes. The literature search for English-language publications was limited to one database and it was unclear whether unpublished studies were sought; language bias could have been present and some studies may have been missed. The methods used for study selection and data extraction were not reported, so it was unclear whether methods were used to minimise error and bias. Furthermore, there was no formal assessment of the quality of the included studies. The majority of included studies were small and contained less than 60 participants. Given the heterogeneity across studies, the decision to employ a narrative synthesis was appropriate. In light of the shortcomings highlighted for the review process, lack of assessment of study quality, heterogeneity across study outcomes, paucity of experimental studies and small sample sizes, the authors’ conclusions should be interpreted with caution as they are unlikely to be reliable.

**Implications of the review for practice and research**
**Practice:** The authors did not state implications for practice.

**Research:** The authors stated that future investigations should include return to work as one of the outcome variables of interest. Further research is required to establish prognostic factors that can stratify patient risk to identify individuals most likely to benefit from surgery.

**Funding**
Not stated.

**Bibliographic details**

**PubMedID**
19245994

**DOI**
10.1016/j.arthro.2008.12.007

**Original Paper URL**
http://www.arthroscopyjournal.org/article/S0749-8063(08)00943-2/abstract

**Indexing Status**
Subject indexing assigned by NLM
MeSH
Clinical Trials as Topic; Humans; Joint Instability /surgery /therapy; Postoperative Complications /epidemiology; Shoulder Dislocation /surgery /therapy; Shoulder Joint /injuries /surgery; Treatment Outcome

AccessionNumber
12009103041

Date bibliographic record published
06/05/2009

Date abstract record published
14/10/2009

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.