#1109 - Systematic Review

A Systematic Review And Meta-Analysis Of Operative Vs Non Operative Management For First Time Traumatic Anterior Shoulder Dislocation In Young Adults

Trauma / Shoulder & Upper Arm Trauma / Surgical Treatment

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Background
Following first time shoulder dislocation young adults have a much higher chance of re-dislocation than the rest of the population. The most effective treatment, after initial closed reduction, is currently debated within the medical literature, with research supporting both operative and non-operative intervention.

Objectives
We undertook a systematic review of outcomes following first time traumatic anterior shoulder dislocation, assessing both operative and non-operative management. Our primary outcome measure was re-dislocation rate. Our secondary outcome measures were return to sport rate and Patient Reported Outcomes Measures (PROMS) in each treatment group.

Study Design & Methods
We registered our systematic review with PROSPERO. Our search strategy was designed in collaboration with a librarian and consisted of a comprehensive search of PubMed, MEDLINE, EMBASE, Scopus, web of science, Cochrane Library, Google Scholar databases and grey literature. All papers identified in the initial search were screened by a minimum of two authors. Studies evaluating primary anterior traumatic shoulder dislocation were selected. Further inclusion criteria were as follows: reporting of re-dislocation rate, minimum 1 year follow up, and mean age between 15 and 25. Our exclusion criteria were: non-English studies, cross sectional studies, case study / series, expert opinion pieces, cadaveric and biomechanical studies, and bench research. Studies examining the treatment of recurrent shoulder dislocation and non-traumatic shoulder instability were also excluded, as were studies with less than 30 patients.

Results
Following review 22 studies meet inclusion criteria. This included 4648 patients with a mean of 129 patients per study and a mean follow up of 47 months. The mean age of patients in the study was 21. The mean re-dislocation rate was 16.08% in the surgical group and 24.46% in the non-operative group. The return to sport rate was 85.24% in the surgical group and 78.34% in the non-operative group. The relative risk reduction in the surgical group versus the non-operative group was 34.26%, the absolute

risk reduction was 0.084, and the number needed to treat was 11.93 (95% CI [8.84, 18.34]). The mean ROWE score was 89.33 in the arthroscopic stabilisation group and 54.03 in the non-operative management group, with a mean difference of 35.30 (p-value: 0.019). There was no statistically significant difference between WOSI scores, 189 in the surgical group and 184.85 in the non-operative group, with a mean difference of 4.15(p-value: 0.792).

Conclusions

This review has demonstrated that surgical intervention following traumatic first-time anterior shoulder dislocation in patients under the age of 25, is associated with a lower re-dislocation rate, higher return to sport rates and higher patient reported outcome measures. A limitation of this study is that we have not evaluated cost effectiveness or operative complications. The results of this study should be useful to guide the difficult clinical discussions with patients, for the most appropriate management of this condition. The numbers presented differ significantly from previously cited rates, used in clinical consultations, as it separates true ‘re-dislocations’ and ‘reports of subjective instability without dislocation’.