Kim J, Chung J, OK H. Asymptomatic acromioclavicular joint arthritis in arthroscopic rotator cuff tendon repair: a prospective randomized comparison study. Arch Ortop Trauma Surg 2011;131:363-369.

Design: Randomized clinical trial

Study question: In the setting of rotator cuff tears with asymptomatic acromioclavicular joint arthritis and inferiorly directed osteophytes, does resection of the distal clavicle at the time of rotator cuff repair lead to better outcomes than rotator cuff repair alone?

Reasons not to cite as evidence:

- There are several problems with the article, but the most serious one relates to the description of the interventions in the two groups
- 83 patients (number of men and women is widely inconsistent between text and Table 1) with rotator cuff tears less than 3 cm in size and with acromial spurs were randomized all had rotator cuff repair, and were randomized to either distal clavicle resection (group 1, n=31) or isolated rotator cuff repair (group 2, n=52)
- The major problem arises in the result section, which reports the mean size of the distal clavicle resection as 5.23 mm in group 1 and 5.41 mm in group 2; group 2 was not supposed to have distal clavicle resection
- This renders the study uninterpretable
- Additional problems arise from the statistical analysis; outcome measures were done at baseline, 6 weeks, 12 weeks, 1 year, and 2 years
    - Although group 2 generally fared better than group 1 at the interim measurements, group 2 fared somewhat better at the 2 year evaluation
    - The authors interpret the 2 year evaluation as defining the outcome difference in favor of group 1, based on t-tests which were done at each time point in the 2 years of the study
    - Longitudinal data are best analyzed by statistical methods other than t-tests at each time point
        - Repeated measures analysis of variance accounts for all the data in the study, not only the final measurement
- The pain VAS score at 2 years (mean of 1.7 in group 1 and 2.3 in group 2) is presented with a p value of 0.0002, but the group difference is a clinically small value of 0.6 points, and no confidence interval is given for the group difference, there is no credible argument that group 1 outcomes were actually better than for group 2