

Chen J, Chen S, et al. Is the Extended Release of the Inferior Glenohumeral Ligament Necessary for Frozen Shoulder? Arthroscopy 2010; 26(4): 529-535.

Design: randomized clinical trial

Study question: In the setting of arthroscopic capsular release for frozen shoulder, is additional benefit to be gained by releasing the inferior and posterior structures of the inferior glenohumeral ligament (IGHL)?

Population/sample size/setting:

- 74 patients (31 men, 43 women, mean age 56) treated surgically for frozen shoulder at a university sports medicine department in Shanghai
- Eligibility criteria were shoulder pain and stiffness without abnormal imaging studies, not responsive to conservative treatment for at least 6 months, with limitation of shoulder ROM in all directions, especially in external rotation at 0° of abduction
- Exclusion criteria were stiffness after humeral head fracture with internal fixation, prior shoulder surgery, locked anterior or posterior dislocation, severe glenohumeral arthritis, and tumor
 - o Additional exclusion criteria were a significant tear of the labrum, biceps tendon, or rotator cuff found during surgery, for which the rehabilitation protocol would be different

Main outcome measures:

- All patients had arthroscopic surgery with capsular release from the superior glenohumeral ligament to the anterior band of the IGHL
- Patients were randomized at the time of surgery to anterior release only (group 1, n=42) or to additional release of the inferior and posterior portions of the IGHL (group 2, n=32)
- On completion of the release, subacromial decompression was performed on 64 patients who were noted to have proliferative bursa or a subacromial spur
- Postoperative rehabilitation was the same for the two groups
 - o Immobilization with a sling continued for 4 weeks
 - o Passive ROM was begun with a physiotherapist on the day after surgery, with full passive external rotation ROM as early as possible
- Followup was done at a mean of 28 months postoperatively (range, 26-32 months), when the main outcomes were assessed; there had been interim measurements of ROM at 2 weeks, 4 weeks, 2 months, 3 months, and 6 months
- All patients improved Constant scores and ROM values at the last followup

- Group 1 improved its mean Constant score from 36% to 86%; group 2 improved from 38% to 88%; there were no differences between groups
- Although both groups had equal improvement in ROM by the time of the last followup, Group 2 had earlier gain of ROM in the first 3 months after operation; after 6 months, the gain in ROM was equal between groups
- Pain VAS was alleviated quickly after surgery and the pain relief was equal between groups
- No patient in either group had evidence of axillary nerve damage during followup

Authors' conclusions:

- There is no general consensus on the best surgical management of frozen shoulder, or on the extent of capsular release needed to achieve clinical benefit
- Release of the same structures for all patients is unlikely to be necessary, since the same pathology is not present in all cases of frozen shoulder
- Although release of the inferior and posterior portions of the IGHL led to earlier gain in ROM in the first 3 months, there were no lasting differences between groups
- Functional outcome of a lesser degree of capsular release leads to benefits comparable to those obtained by release of the entire IHGL

Comments:

- Subacromial decompression due to the intraoperative discovery of proliferative bursa was done in 64 patients, but the number of these in each group is not reported
- Blinding of patients to group allocation helps to control one potential source of bias
- Axillary nerve damage was avoided in the patients with the more extensive release due to special precautions taken by the authors, but they are correct to express concern that protection of this nerve is easier to achieve when capsular release is more limited

Assessment: Adequate for some evidence that in the setting of arthroscopic capsular release of frozen shoulder, the benefits of release limited to the anterior capsule are approximately equal to those of extending the release to the inferior and posterior portions of the IGHL