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Appendix 6.7 Capsular release

Study	Inclusion/exclusion criteria and diagnosis of FS	Participant characteristics (age, sex, diabetes)	Condition-related characteristics (duration and stage of FS, previous treatments, secondary FS)
Austgulen 2007[87] Case series *Country, setting and treatment provider:* Norway; Bergen Surgical Hospital; one surgeon performed surgery	*Inclusion criteria:* Patients with primary FS and stiffness typical of FS. Physiotherapy must have been tried previously without a satisfactory result *Exclusion criteria:* Secondary causes of FS (e.g. trauma) excluded *Method of diagnosis:* Diagnosis of FS was confirmed during anaesthesia; limited outward rotation of < 20° and < 45° in abduction with a fixed scapula *Terminology used:* FS	*Age (years), average (range):* 53 (34 to 71) *Female:* 67% *Any participants with diabetes?* Yes. *n* = 11 with diabetes	*Duration of FS at baseline (months), average (range):* 13 (3 to 60 months) *Stage of FS at baseline:* NR *Previous treatments for FS:* Physiotherapy *Participants with secondary FS:* None reported

Intervention	Concomitant treatment and details of home exercise
Arthroscopic capsular and ligament release and PT: Surgery was performed using intravenous anaesthesia with addition of local infiltration. Patients were operated on in a beach chair position. Shoulder arthroscopy was performed using normal technique, with access to the shoulder joint from behind and surgical instruments entered in front in the rotator interval. The rotator interval was cleaned and the entire frontal capsule and glenohumeral ligament and coracohumeral ligament were split from the bicep tendon to 6 o'clock. Both capsules and ligaments were split with Acufex Upbiter Scissor punch. The subacromial space was inspected and adherences were loosened. The space and displacement were evaluated. Where spaces were narrow subacromial decompression was performed until it was possible to outwardly rotate the shoulder to maximum and abduct to 180°. All patients received aggressive rehabilitation with a physiotherapist from the first day after surgery *Home exercise*	NSAIDs and other pain relief given as needed. Oxycodone was given sometimes postoperatively. Patients received 40-mg bupivacaine injections into shoulder joints and cold packs pre- and postoperatively *Home exercise:* All did home exercises every day and performed stretches at home every day

Study	Inclusion/exclusion criteria and diagnosis of FS	Participant characteristics (age, sex, diabetes)	Condition-related characteristics (duration and stage of FS, previous treatments, secondary FS)
Chen 2002[88] Case series *Country, setting and treatment provider:* Taiwan; Kaohisiung Medical University Hospital	*Inclusion criteria:* Basic criteria for definition of idiopathic FS *Exclusion criteria:* NR *Method of diagnosis:* Idiopathic FS diagnosed using history, physical examination, X-ray and arthrography *Terminology used:* FS	*Age (years), range:* 32 to 79 *Female:* 75% *Any participants with diabetes?* Unclear/NR	*Duration of FS at baseline (months), average (range):* 8 (3 months to 4 years) *Stage of FS at baseline:* NR *Previous treatments for FS:* Participants had not responded to conservative treatment of at least 12 weeks' duration *Participants with secondary FS:* No

Intervention	Concomitant treatment and details of home exercise
Arthroscopic brisement (distension, debride, release) followed by gentle manipulation and PT: Distension was first undertaken to allow insertion of the arthroscope. The synovium was removed by arthroscopic shaver or vaporisation. The authors state that an attempt should be made to resect the areas of synovitis in the axillary pouch. In stage 3 disease residual synovial thickening or fibrotic changes are seen but the hypervascular appearance has resolved. The sheet of capsular tissue was debrided carefully. On removal of the arthroscopic instruments, a gentle manipulation was performed. The arm was elevated in the scapular plane (which was usually associated with audible popping of the contracted capsule) and then externally rotated and then internally rotated at varying degrees of abduction. This was done with gradual pressure and stopped if unyielding resistance was met. Repetition of these steps led to tearing of the capsular structures. The arm was then kept in the abduction–external rotation position for 2 days during which the patient was confined to bed. Passive and active exercise of the shoulder was then allowed, with a rehabilitation programme at the hospital rehabilitation facility (further details of the procedure are provided in the paper)	NR

FS, frozen shoulder; NR, not reported; PT, physiotherapy.