

Arthroscopic Rotator Cuff Repair

0-2 weeks: Initial recheck. Staples will be removed unless otherwise indicated.

- Most of time is in shoulder immobilizer.
- Aggressive icing and swelling control.
- Pendulum range of motion started post op day 1.
- Scapular positioning and control.

2-4 weeks: Passive range of motion is the focus of this period.

- Shoulder immobilizer is still used when up walking. Can be removed at night and when sitting quietly.
- Continue pendulum range of motion
- Focus of physiotherapy should be to continue passive ROM of the glenohumeral joint and scapular positioning and control.

6 weeks: Recheck with surgeon. Further progression of activity will be indicated by Dr Urquhart at this recheck.

- Small tears: active flexion, abduction in standing and external rotation in antigravity positions are added through pain-free ROM. Abduction and external rotation isometrics can be added. Progress gradually to weight/tubing as tolerated. Progress scapular exercises via closed chain or tubing exercises.
- Moderate tears: Continue with AAROM, AROM flexion only. Can add light isometrics for flexion, extension, internal rotation
- Large / massive tears: Physio referral may occur now or at 12 weeks. AAROM only. Active scapular ROM.

12 weeks: Recheck appointment with surgeon

- Small tears: Near full ROM and function, normal scapular control
- Moderate tears: Progress to full strength program via AROM, weights/tubing
- Large / massive tears: Expect grade 3+ strength. Introduce AROM exercises. Progress as tolerated via isometrics, and weights/tubing. Active scapular ROM.

18 weeks:

- Moderate tears: reaching full function
- Large / massive tears: will continue to progress, improving up to one year.

Discharge criteria:

1. Resisted testing of external rotation and abduction should be strong with minimal discomfort.
2. 160 degrees elevations, >90 degrees glenohumeral abduction, >60 degrees external rotation at 90 degrees abduction. This ROM should also take into account the ROM on the opposite side.
3. Strength should be sufficient to tolerate tubing exercises through ROM, i.e. minimally Gr 4.
4. Function at home/work should be full except for heavy lifting and prolonged overhead activities

Differentiation of tears:

Small tears (less than 2cm)

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Moderate tears (2-4cm) Repair involves margin convergence of tear or advancement of tendon to bone. May delay physiotherapy intervention.

Large tear (4cm, multiple tendons involved) Repair may involve interval slides: anterior and posterior supraspinatus / infraspinatus interval followed by advancement and margin convergence. Will delay introduction of strengthening.

**Keep in mind that over the first three months, the tendon to the bone healing progresses slowly. It is the tendon to bone interface that is being stressed with active exercises. Therefore, it is important that there is adequate strength at the tendon-bone interface to withstand the stress i.e. at 6weeks 50%, at 12weeks it is 80% of final tendon to bone pull-out strength. However, in each individual, regardless of age, the actual magnitude of the stress tolerated will vary.

Indications: Repairable rotator cuff tear. The use of ultrasound, MRI, or arthrogram (dye test) is diagnostically helpful, but conclusive determination must be made in surgery. Clinically, passive ROM is not restricted, atrophy of the rotator cuff muscles may be evident, and there is marked weakness of abduction or an inability to maintain abduction at 90 degrees. The decision to operate is also based on the success of conservative treatment i.e. an active individual, or one with intractable pain and weakness is most likely a surgical candidate.

Procedure:

Generally, a decompression (bursectomy, coraco-acromial ligament release and acromioplasty) is done with most repairs. See the decompression protocol for details. Excision of the distal clavicle depends on the condition of the AC joint. Smaller tears, less than 2cm, are repaired by directly suturing the edges of the tear together and implanting the tendon into bone. In the case of a large (greater than 4 cm) or old tear, the muscle may have retracted. This would require more involved surgery including interval slides to mobilize tendon, margin convergence suturing, tendon to bone suturing, and possibly a patch graft to reinforce the tendon. Rarely, if the repair is not feasible, a simple debridement of the scarred margins carried out.

Definitions:

Margin convergence – tendon to tendon suturing side to side before being fixed to the bone

Advancement of tendon to bone – fixing the tendon to the bone

Interval slide – release of the coraco-humeral ligament and/or release of supraspinatus/infraspinatus septum

Patch graft – collagen graft, various materials from allograft to xenograft

Poor prognosis:

- Long history of symptoms
- Strength of Gr. 3 or less in abduction and/or external rotation
- Acromiohumeral distance of less than 7m
- Older tears with contracture of the muscle, excessive scarring, or osseous changes

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