

## Massive Rotator Cuff Tear: This is How We Do It, The Putra Rehabilitation Protocol

Zulasri Azan ; Fernandez J; Nasir M Nizlan;

Orthopaedic Department, Putrajaya Hospital; Orthopaedic Department, HPUPM

### INTRODUCTION:

Massive rotator cuff (RC) tears treatments, poses a challenge to orthopedic surgeons. Correct surgical technique and proper rehabilitation are required for better outcome.

### REPORT:

44 year old male presented with difficulties moving right shoulder; post close manipulative reduction for right shoulder dislocation. Range of motion (ROM) of shoulder: passive ROM full, active ROM 0-90 abduction and forward flexion. MRI showed complete rupture of supraspinatus, infraspinatus and partial tear of subscapularis tendons with medial subluxation of long head of biceps (LHB). There was evidence of muscle fatty infiltration, Gautallier grade II of the supraspinatus muscle. Patient underwent arthroscopic repair of the RC with soft tissue tenodesis of the LHB. Intraoperatively noted subscapularis tendon torn (LaFosse Type2) and was repaired using single knotless anchor. Where else, supraspinatus and infraspinatus tendons repaired with double-row suture technique. Postoperatively, patient adhere to rehabilitation schedule. At 3 months postoperative, patient was able to achieve full active ROM.

### DISCUSSION:

Double-row repairs are stronger biomechanical constructs that better recreate the normal anatomy of RC insertion compared to singlerow, although clinical studies have shown no difference between the two(1). The use of either a 3 or 4-suture anchor construct yields similar tendon-to-bone contact area in the repair of a medium-sized tear. The use of just three anchors, with less hardware, the chance of creating a highpressure environment at the expense of vascularity between tendon to bone may hypothetically be reduced. Arthroscopic and

mini-open RC repair result in similar clinical outcomes(2). There are many rehabilitation protocol described.

### The Proposed Putra Rehabilitation Protocol

1<sup>st</sup> to 4<sup>th</sup> week:

- Keep on abduction splint at around 30 degrees
- Cryocuff therapy
- Hand squeeze ball exercise

4<sup>th</sup> to 6<sup>th</sup> week:

- Off abduction splint, change to regular arm sling
- Start on passive pendulum exercises within arm sling range

6<sup>th</sup> to 8<sup>th</sup> week:

- Start full passive range of motion exercises

8<sup>th</sup> to 12<sup>th</sup> week:

- Start active assisted range of motion exercises

12<sup>th</sup> week onwards:

- Continue active and passive range of motion exercises
- Shoulder proprioception training
- Periscapular muscle strengthening

Figure 1 describes our proposed shoulder rotator cuff full thickness repair protocol:



Figure 2: Full active Shoulder ROM post-operative.

### CONCLUSION:

Patients with massive RC tears would benefit from arthroscopic RC repair and a well structured rehabilitation protocol.

### REFERENCES:

- 1) Single-row Versus Double-row Rotator Cuff Repair: Techniques and Outcomes, Dines et al, 2010
- 2) Arthroscopic Versus Mini-open Rotator Cuff Repair: A Randomized Trial and Meta-analysis, Roy et al, 2021