

Clinical Case Presentation for ASSET 2014 Annual Conference

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Background: Rotator cuff repair and subsequent recovery can be adversely affected by pre-operative condition of adhesive capsulitis if that condition is not properly addressed before undergoing arthroscopic correction of the RTC injury.

Purpose: The purpose of this case study is to review the circumstances surrounding this 55y/o flight attendant who underwent arthroscopic RTC repair, debridement and decompression and required nearly 18months of postoperative rehabilitation and still did not achieve her prior level of function. The fact that she had an untreated frozen shoulder before her work related injury and subsequent surgery apparently adversely affected her recovery. The facts of the case will be reviewed with relevant research discussed.

Case Description: 55yo Right hand dominant flight attendant sustained a work related injury to her right shoulder on 12/9/12. She was diagnosed with a RTC tear and underwent arthroscopic repair, decompression and debridement on 1/15/13. Apparently she had a preexisting case of adhesive capsulitis before her injury but was not addressed prior to her surgery. She was immobilized x 3 weeks before starting physical therapy. She subsequently presented with extreme joint stiffness with pain = 10 on 0-10 VAS. She demonstrated very slow progress of PROM and underwent MUA with scalene block on 3/13/14 and a second MUA with scalene block on 5/15/14. Her progress was slightly better but was still unable to progress to normal RTC protocol because of significant loss of joint mobility. Supraspinatus atrophy developed. She required arthroscopic capsular release and a 3rd MUA on 1/14/13. Focus of rehabilitation was to improve joint play, and PROM to reduce reverse scapulohumeral rhythm until the joint play allowed better movement quality before progression to AROM, strength, muscle re-education and work simulation.

Outcomes: PROM was measured in supine for flexion, abduction, external rotation, internal rotation and AROM measured in sitting for flexion, abduction, extension, ER, IR and horizontal abduction as well as reach up back distance (RUB). Her initial post-op PROM was flex 45deg, abd 30deg., ER 0deg., IR 30deg. AROM measured 6 weeks post op was flex 58 deg., abd 48 deg., ext 35 deg., ER 0 deg., IR 25 deg. She was fitted with Dynasplint for external rotation 30mins 3 times/day 6 weeks post op. Required manipulation under anesthesia with scalene block (MUA) on 3/13/13 and then again on 5/15/13. 5 days after the second MUA her PROM improved to flex 140deg., abd 140deg., ER 65deg., IR 65deg. At 7 months post op her Shoulder Pain and Disability Index (SPADI) was 80 and her AROM continued to be limited with elevation because of weakness and continued impaired GH joint play. Flex 90 deg., abd 80 deg., ext 55 deg., ER 60 deg., IR 45 deg. Supraspinatus and infraspinatus atrophy became more apparent. At 11 months post op her SPADI was 44 and the following AROM/PROM: flex 115/170, abd 95/175, ext 50, ER 65/85, IR 60/85, horizontal adduction 25 and reach up back

(RUB) to T10 level. Manual muscle test (MMT) of supraspinatus was 3-/5, infraspinatus 3+/5, horizontal abduction 3-/5. Progress began to plateau and underwent arthroscopic capsular release and a 3rd MUA 1 year after original surgery. She continued extensive physical therapy until plateaued 18months after the original surgery with the following AROM/PROM: flex 155/175, abd 150/175, ER 65/90, IR 55/80. MMT of supraspinatus was 4-/5, infraspinatus 4-/5, horizontal abduction 3+/5 and shoulder flexion 3/5. Her SPADI improved from 80 to 9.

Discussion: This clinical case depicts the extensive rehabilitation and multiple procedures required when a patient undergoing arthroscopic RTC repair has an untreated frozen shoulder prior to surgery and post op immobilization. This clinical case can be used as a guide by other clinicians that have a patient going for RTC repair and has an unaddressed frozen shoulder prior to surgery. It may be best to regain maximum joint play and mobility before surgery is performed. The adverse effects of joint stiffness prior to surgery can adversely delay the patient's recovery and add to the total cost including lost time, surgical interventions and rehabilitation.