# Physical Therapy Management of a Manual Laborer with Chronic Rotator Cuff Tendinopathy: A Case Report

S Lasher, BS, SPT

Department of Physical Therapy, University of New England, Portland, Maine

## Background

- Tendinopathy is characterized by tendon thickening, localized pain and chronic degeneration reflective of failed healing.[1]
- 38% of manual laborers who participate in daily moderate to heavy lifting will experience Rotator Cuff Tendinopathy(RCT).[2]
- There is a lack of research investigating the PT management of manual laborers who have RCT, but must continue to participate in harmful activities to fulfill occupational responsibilities.

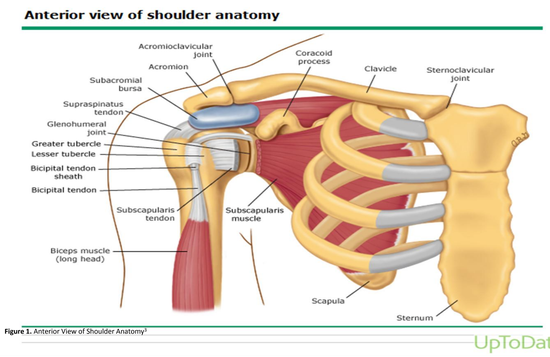



**Figure 1.** Anterior View of Shoulder Anatomy[3]

### Rotator Cuff Muscle Function

| Muscle | Glenohumeral Motion |
|---|---|
| Supraspinatus | ▪ Abduction<br>▪ External Rotation<br>▪ Stabilizes humeral head in glenoid cavity during motion |
| Infraspinatus | ▪ External Rotation<br>▪ Stabilizes humeral head in glenoid cavity during motion |
| Teres Minor | ▪ External Rotation<br>▪ Stabilizes humeral head in glenoid cavity during motion |
| Subscapularis | ▪ Internal Rotation<br>▪ Stabilizes humeral head in glenoid cavity during motion |

Table 1. Function of Rotator Cuff Muscles

## Purpose

- The purpose of this case report was to describe the PT management of a patient with rotator cuff tendinopathy who, due to work requirements continued to participate in activities detrimental to the health of the supraspinatus and function of the shoulder girdle.

## Case Description

- 44 year old female manual laborer diagnosed with left rotator cuff syndrome by her primary care physician
- Chief complaints:
  - Inability to lift arm without increased pain
  - Continuous ache in shoulder
  - Inability to sleep on left side
- Works through painful repetitive overhead lifting and pulling of ≤ 75 pounds daily at work
- 7 months since onset
- No history of previous shoulder related injury
- Only previous treatment was prescription of Ibuprofen written by PCP two weeks prior

## Examination

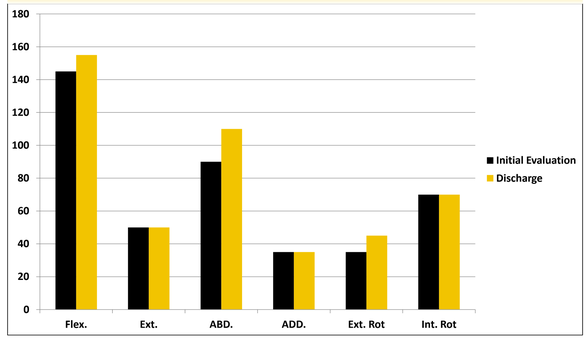
| | Initial Evaluation | | | Discharge | | |
|---|---|---|---|---|---|---|
| **Left Shoulder** | **MMT** | **AROM** | **Pain (VAS)** | **MMT** | **AROM** | **Pain (VAS)** |
| **Flexion** | 4- | 145° | **Current** | 4- | 155° | **Current** |
| **Extension** | 5 | 50° | 6/10 | 4+ | 50° | 6/10 |
| **Abduction** | 4- | 90° | **Best** | 4- | 110° | **Best** |
| **Adduction** | 4 | 35° | 4/10 | 4 | 35° | 4/10 |
| **Ext. Rotation** | 3+ | 35° | **Worst** | 4- | 45° | **Worst** |
| **Int. Rotation** | 4- | 70° | 8/10 | 4+ | 70° | 6/10 |

## Interventions

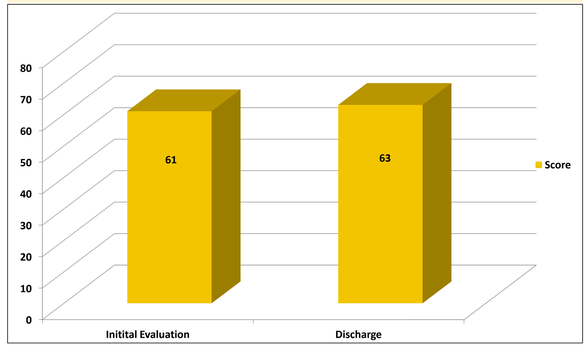
| | |
|---|---|
| **Communication, Coordination, Documentation** | • Coordinated with PCP to provide the patient with lifting restrictions. |
| **Patient Education** | • Avoidance of painful activities<br>• Factors involved with the healing process of tendinopathy |
| **Procedural Interventions** | • Scapular stabilization strengthening<br>• Cross friction massage<br>• Passive, active assist and active range of motion<br>• Interferential Current E-Stim with Cryotherapy<br>• Functional training involving use of contralateral upper extremity |

## Outcomes

### ROM




### Upper Extremity Functional Index (UEFI)




## Discussion

- As demonstrated by the UEFI the patient made little progress. The minimum level of detectable change is 9 points and the score increased by 2 points throughout the episode of care.
- The lack of ability to properly rest was hypothesized to be the main reason for the delayed recovery.
- Traditional interventions focused on strengthening, ROM and avoidance of painful activity were not enough to relieve symptoms.
- Further research investigating optimal balance of PT interventions and work modifications for manual laborers is warranted.

## References

1. Minagawa H, Yamamoto N, Abe H, et al. Prevalence of symptomatic and asymptomatic rotator cuff tears in the general population: From mass-screening in one village. J Orthop. 2013;10(1):8-12.
2. Mehta S, Gimbel JA, Soslowsky LJ. Etiologic and pathogenetic factors for rotator cuff tendinopathy. Clin Sports Med 2003; 22:791.
3. Anterior View of Shoulder Anatomy. Up to Date Website. https://www-uptodate-com.une.idm.oclc.org/contents/image?imageKey=RHEUM/72709&topicKey=EM%2F239&source=outline_link&search=rotator+cuff+tendinopathy&utdPopup=true. Accessed November, 19th 2014.