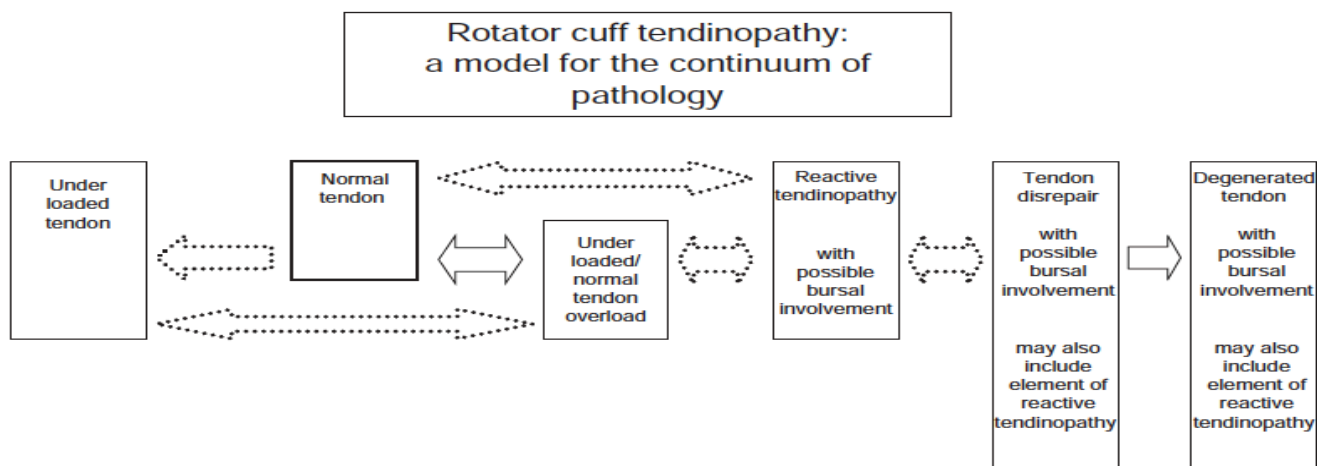


## The Rotator Cuff and Physiotherapy

### Continuum of Rotator Cuff Tendon Pathology

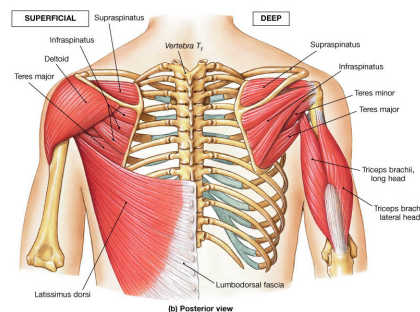


**Figure 1** Rotator cuff tendinopathy: a model for the continuum of pathology. Dotted arrows, potentially reversible; solid two-directional arrows, reversible; solid single-directional arrows, irreversible; dotted single-directional arrows, irreversible without going through an intermediate step.

(image and model from Lewis 2009)

### Physiotherapy Approach

A thorough physical therapy assessment is the corner stone of treatment. Deficiencies in rotator cuff strength and endurance, scapular stabilizers and positioning, thoracic spine mobility and control are common findings in the presence of rotator cuff pathology. Addressing all of these factors is very important throughout the rehabilitation process.



A period of relative rest may be necessary if an unaccustomed increase in load is part of the reason for the rotator cuff pathology.

### **Restore Range of Motion**

- improve centration of the humeral head and normal biomechanics
  - joint mobilizations and stretching to improve the humeral head position in the glenoid fossa and the biomechanical motions of the glenohumeral joint

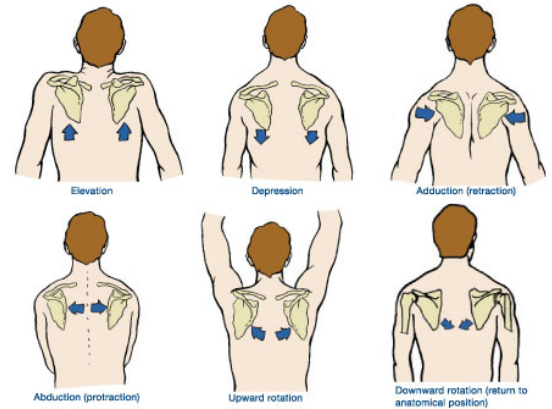
### **Improve Rotator Cuff's Ability to Dynamically Stabilize the Humeral Head**

- reduce superior migration of the humeral head
  - decreased ability of the infraspinatus and teres minor to inferiorly control the humeral head may lead to increased rotator cuff compression
- dynamic stabilization through the range of motion
  - the rotator cuff must be retrained to control and centre the humeral head throughout the range of motion is done via rhythmic stability exercises

## Importance of the Kinetic Chain

### →The Scapula

- Scapular positioning – medial border dysfunction, inferior angle prominence or a “dumped” scapula may compromise the rotator cuff and be due to musculature force couples around the scapula-scapular assistance test
- Is upwards rotation of the scapula a factor?



### →The Thoracic Spine

- The upper thoracic spine must conjointly extend and rotate with the shoulders to reach full elevation
- The thoracic spine and rib cage must provide a stable and adaptable base for the scapulo-thoracic joint to function

### →The Cervical Spine

- The sensory and muscular structures of the rotator cuff are innervated by C4, C5 and C6 nerve roots and thus pain may be neuromodulated via manual therapy targeted at these levels

## How is Body Works Sports Physiotherapy’s approach different?

A detailed one on one whole body assessment to evaluate all predisposing and aggravating factors in addition to shoulder specific assessment procedures to determine the functional abilities of the patient and their rotator cuff is the staple of our approach. In addition to rotator cuff strengthening as appropriate, all predisposing deficiencies will be addressed to optimize movement and prevent recurrence. This may include scapular stabilizer strengthening and control, thoracic spine mobilization and optimization of thoracic spine control.

Additionally, **intramuscular stimulation (IMS)** and/or **acupuncture** may be used in conjunction to help with pain and allow patients to better engage in their rehabilitation.

## References

Donatelli, R. (2012) Physical Therapy of the Shoulder (Fifth Edition). Churchill Livingstone, St. Louis Missouri.

Lewis, JS (2008). Rotator cuff tendinopathy/subacromial impingement syndrome: is it time for a new method of assessment? *British Journal of Sports Medicine*. 43: 259-264.

Lewis, JS (2009). Rotator cuff tendinopathy: a model for the continuum of pathology and related management. *British Journal of Sports Medicine*. 44: 918-923.

Fowler Kennedy Sports Medicine Clinic (2014) Large Rotator Cuff Repair Protocol. London, Ontario.

Fowler Kennedy Sports Medicine Clinic (2014) Small Rotator Cuff Repair Protocol. London, Ontario

New West Orthopaedic and Sports Medicine Centre (2014). Rotator Cuff Tendinosis & Impingement Syndrome Non-Operative Protocol. New Westminster, B.C. Farhad Moola, MD Inc.