

The Role of Ergonomics in Shoulder Complex Pain

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Purpose: To show how our daily activities can play a major role in altering length tension relationship of the muscles of the scapular resulting in shoulder pain.

Case Description: Patient is a 28 y/o R handed female who described weakness and pain to the L shoulder joint. Symptoms began insidiously on 12/1/2010. The patient was treated with Prednisone, Neurontin, Lidoderm patch and Flexeril with partial relief. Patient also had a previous course of physical therapy with partial relief so she discontinued. Patient was also seen by the Pain clinic and said she was advised to swim but the swimming worsened her symptoms. Functionally she has discontinued her recreational activities secondary to pain. Blow-drying and cutting hair, lying on the L side are all painful activities. Pain is affecting her sleep nightly.

Examination Findings: Upper Extremity Tests and Measures/Posture: Elevation of L scapula with prominent A/C joints bilaterally L >R. Medial border winging of L, and inferior winging of the R scapula. Hypertrophy of L upper trapezius. Generalized ligamentous hyperlaxity. Pain: 4-8/10. Location: L scapular and upper trapezius region and lateral trunk. Range of Motion/Muscle Performance: Passive ROM: Limited to IR/ER. Muscle Performance: Generally grade 3-4 to shoulder and scapular muscles with pain to most shoulder motions. Other Tests and Measures: Ergonomics: Patient sleeps with two pillows under her head. TV: Patient sits/lies on her back with the TV to the L side and above eye level when she is on the couch. Patient denies cradling of the telephone. Computer: Patient sits with the laptop placed above waist level. Occupational Tasks: During occupational tasks the L shoulder is held in abduction with the scapular elevated as she cuts and blow-dries her clients' hair. Scapulo-humeral rhythm: Decreased L scapula ER at end range flexion. Altered Scapulo-humeral rhythm with excessive winging during eccentric abduction > flexion in a Kibler 111 pattern. Provocative Testing to L shoulder joint: Patte's test is strong and pain free. Dropping test is strong and pain free. Resisted shoulder abduction in scaption is strong and pain free. Extensibility: Decreased to pectoralis major and minor, L > R; L levator scapula and upper trapezius.

Intervention/Treatment Plan: Strengthening, stretching and proprioception exercises, taping, patient education x 1/week.

Outcomes: A re-evaluation performed after four treatment sessions exhibited that the patient has made all the recommended ergonomic changes when performing her occupational tasks, also when using the telephone and computer and looking at the TV. Pain is now significantly less. Length of the pectorals, upper trapezius and levator scapula remains altered affecting the scapulo-humeral rhythm. Muscle performance of the scapular and gleno-humeral stabilizers remain decreased. AROM is now WNL but with pain. Altered sensation still persists but with less frequency.

Discussion: Patient is continuing to be seen for physical therapy and is expected to be discharged within a month. I expect her to continue to progress to meet the expected goal of returning to symptom free function when performing her occupational tasks.