

## Eli's Rehab Report

### Clinical Rehab Roundup: Try These Exercise Combos for Trapezius Imbalances

"Rehabilitation of scapular muscle balance: which exercises to prescribe?" Cools AM, Dewitte V, Lanszweert F, Notebaert D, Roets A, Soetens B, Cagnie B, Witvrouw EE. Am J Sports Med. 2007 Oct;35(10):1744-51. Epub 2007 Jul 2. Therapists often use strengthening exercises for the scapular muscles to treat scapulothoracic dysfunction related to shoulder injury. In view of the intermuscular and intramuscular imbalances often established in these patients, researchers noted that exercises promoting lower trapezius (LT), middle trapezius (MT), and serratus anterior (SA) activation with minimal activity in the upper trapezius (UT) are recommended. Researchers hypothesized that of 12 commonly used trapezius strengthening exercises, a subject can perform a selection for muscle balance rehabilitation, based on a low UT/LT, UT/MT, or UT/SA muscle ratio. In a controlled laboratory study, researchers measured electromyographic activity of the three trapezius parts and the SA in 45 healthy subjects performing 12 commonly described scapular exercises, using surface electromyography.

Findings: For each intramuscular trapezius ratio (UT/LT, UT/MT), researchers selected three exercises for muscle balance restoration. Side-lying external rotation, side-lying forward flexion, prone horizontal abduction with external rotation, and prone extension were the most appropriate for intramuscular trapezius muscle balance rehabilitation. For the UT/SA ratio, none of the exercises met the criteria for optimal intermuscular balance restoration. Researchers concluded that in cases of trapezius muscle imbalance, some exercises are preferable over others because of their low UT/LT and UT/MT ratios. Thus, when selecting rehab exercises, the clinician should consider exercises with high activation of the LT and MT and low activity of the UT.