

On the Scapula in Relation to Spinal Dysfunction

Nagai et al. (2013) mentioned the relationship between spinal alignment and scapular positioning/movement. Nagai et al. (2013) studied the effect of trunk rotation on scapula movement during humeral elevation. Nagai et al. (2013) found that ipsilateral rotated trunk decreased scapular internal rotation and increased upward rotation. When the trunk was contralaterally rotated, the activity of the upper trapezius and serratus anterior was increased while the activity of the lower trapezius was decreased. Nagai et al. (2013) noted that altered muscle length-tension relationships surrounding the scapulothoracic articulation/junction.

Lin, Chen, Chen, and Tsauo (2010) mentioned the relationship between posture of the spine, lumbopelvic area, and asymmetries of the scapula. Lin et al. (2010) found that individuals with idiopathic scoliosis (IS) exhibited moderate shoulder dysfunction related to scapular congruency from altered muscular contraction strategies (lower trapezius). For IS patients, shoulder dysfunction was less likely from abnormalities with upward scapula rotation. Lin et al. (2010) did find that "at rest", IS patients exhibited abnormal scapular "tipping" (more anterior tipping on convex side with possibility of future impingement issues).

I thought the articles were interesting and helped tie-in the regional interdependence for me.

References

Lin, J., Chen, W., Chen, P., & Tsauo, J. (2010). Alteration in shoulder kinematics and associated muscle activity in people with idiopathic scoliosis. *Spine*, 35(11), 1151-1157.

Nagai, K., Tateuchi, H., Takashima, S., Miyasaka, J., Hasegawa, S., Arai, R., & ... Ichihashi, N. (2013). Effects of trunk rotation on scapular kinematics and muscle activity during humeral elevation. *Journal Of Electromyography And Kinesiology*, 23, 679-687.