

The Deep Neck Flexors and Cervical Spine Dysfunction

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The deep neck flexors are primarily made up of the *longus coli* and *longus capitus* muscles. They play a pivotal role in cervical spine conditions, and are often overlooked as a source of locomotor system dysfunction. Fiber orientation would suggest these muscles have specific actions, including lateral flexion and flexion of the cervical spine.⁴ However, these muscles appear to play the role of a local stabilizer, allowing for proper movement, rather than creating it, through a slight flattening of the cervical curve. This does not straighten the curve; it only acts to open the posterior facet slightly.³ In turn, this allows the large global and more superficial muscles of the cervical spine, scapulae and thoracic spine (with cervical or cranial attachments), to move the cervical spine without facet joint compromise.

In whiplash-associated disorders, chronic neck pain, and cervicogenic headache, there is a faulty overactivation of the superficial sternocleidomastoid (SCM) muscles during neck flexion.^{1,3} This should signal to the examiner that there is dysfunction in the cervical stabilization system.^{2,3} Mechanically, this makes sense; however, it lacks an explanation for the moderately high rate of success chiropractic physicians and other manipulative therapists have had in treating these conditions without addressing the deep neck flexors.

Recently, Sterling, et al.,⁵ investigated the effects of cervical spine mobilization on the deep neck flexors. They found decreased EMG activity in the superficial SCM muscle, and an increase in deep neck flexor activity. They stated, "For optimal management of patients with chronic mid-to-lower cervical spine pain, application of SMT, prior to retraining of deep neck flexor muscles, would be the most beneficial approach."

As the discipline of chiropractic advances its understanding of locomotor system dysfunction, we continue to realize that it is often not what we practice that changes, as much as our understanding of what is being practiced. Adding deep neck flexor stability exercises to your treatment protocol following the adjustment is highly effective, and does not require significant extra time.

Authors' note: A practical approach to cervical spine stabilization, and a more comprehensive review of cervical spine biomechanics and muscle interactions, can be found in an excellent text by Murphy.⁴

References

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JANUARY 2003