



Dynamic Chiropractic – June 15, 1998, Vol. 16, Issue 13

Levator Scapula Syndrome

By Joseph D. Kurnik, DC

A common complaint often seen in practice is pain, discomfort, and/or tightness in the levator scapula muscle. Its tendon origin is on the transverse process of the first four cervical vertebrae. It passes downward and lateral to insert on the vertebral border of the scapula above the scapula spine. Its contraction elevates the scapula, tends to draw it medial, and rotates it to lower the lateral angle. It is affected by various motions of the arm relative to attachments and tonus of the infraspinatus muscle.

Motions of the neck also affect the levator scapula muscle because of the mechanics of its attachments.

From clinical observations, this disorder has an affinity for the left side. It also appears to relate most closely to upper cervical fixation dysfunctions, and is most frequently associated with C-1/ C-2 fixations where the listing appears like LPS or LPS-RA.

In previous articles I have described the C-1 LPS fixation. The left side fixates left lateral and resists rotation from left to right. The right side also may be fixated at C-1/C-2 from going anterior to posterior. This fixation dysfunction appears to alter levator scapula function by increasing its tonus and, eventually, irritability.

This syndrome may be associated with headaches, neck pain and neck and shoulder stiffness. It can lead to increased irritability of the infraspinatus and teres muscles, or it can be exacerbated by tension in these muscles. Irritability of the levator scapula muscle can be detected by firm finger probing of the muscle or with instrumentation, such as the DSR zone finder, which can measure increased skin resistance over the muscle.

Treatment consists of the following steps at each office visit:

1. Adjustment of C-1/C-2: This occurs from the left side usually, adjusting the left side P to A, lateral to medial, or some combination of this. The right side can simultaneously be adjusted anterior to posterior. This entire process has been previously described in articles for Dynamic Chiropractic, and is described in detail with more reference to this syndrome in my manual *The Seeking Phenomenon*, which will be published at a later date.
2. Electric contractive current applied to the levator scapula muscle: Medium frequency appears to be most effective, but any current which can tire and sedate the muscle is effective. Any anti-inflammatory current is effective. This is done to relax the muscle and soften fibers.
3. Myofascial massage with a lotion, deeply applied: Ibuprofen-based ointment works best. Other sedative and anti-inflammatory agents can be used. This process breaks adhesions, softens and elongates the levator scapula muscle.
4. Pulsed ultrasound (0.8 to 1.8 w/cm²) using Ibuprofen ointment, or other sedative and anti-inflammatory gel. This is applied to the levator scapula muscle.

Temporarily reducing shrugging and arm motions can be helpful.

Tightness of the same sided infraspinatus regions can cause more strain upon the levator scapula muscle. Massage and ultrasound of the infraspinatus muscle can be useful and assist in relieving the levator scapula muscle.

I do not call this treatment physical therapy, because adjusting properly is integral to this correction, since it was probably the joint dysfunction which caused the syndrome. I call this entire process chiropractic therapy, since it can only be done properly by a DC. Adjusting by itself may correct the disorder. If the levator scapula has become inflamed and has acquired adhesions as a result, adjusting may not alleviate the pain, but will require additional therapy to the muscles involved.

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