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Hypertonic Fascia

By John Lowe, MA, DC

Chiropractic's myofascial pioneer, Dr. Raymond Nimmo wrote, in 1984, "Trigger points have become the glamour girl getting all the attention, while hypermyotonia, which spawns them, is ignored. Many chiropractors are victims of the illusion that clearing a patient of trigger points is all that needs to be done. But if you do not release the hypertonic muscles which produce them, they will redevelop."¹ He was right. But evidence today carries us beyond this bit of Nimmo's wisdom: just as neutralizing trigger points may not be enough, relaxing excess muscle tone may also not be enough. Fascial tension must be reduced as well.

As a constricting entity, fascia can sabotage the best attempts to relieve pain that are directed only to trigger points and hypertonic muscles. A good example is pain from trigger points in the thoracic erector muscles. In many patients these muscles contain highly palpable ropey cords. Patients with hyperkyphosis, osteochondrosis, or spondylosis are especially prone to suffer from pain referred from trigger points in the matrix of these cords. The cords behave not as muscle, but as dense fibrotic tissue. In my experience, the pain referred from trigger points in these cords can best be stopped with ultrasound or negative galvanism. But the relief is brief unless the erectors are stretched, which is cumbersome at best. So, I often use cross-friction technique -- although not atop trigger points -- to stretch and loosen these muscles.

Visualize a Steven Spielberg version of a human form, selectively stripped of skin, muscle, nerves, bones, and viscera -- every tissue except fascia. This form resembles a mummy wrapped in gauze, but more ghost-like; its substance somewhat translucent and iridescent when light strikes it at certain angles. Most of the body-form's white substance is uniformly dense. But the fascia is thicker and more opaque at sites that have been subjected to stresses such as: 1) trauma, 2) intermittent biomechanical stress, or 3) immobility. The greater density at these sites is the fascia's normal reaction to stressors, and it's at these sites that fascial trigger points are likely to form.

When traumatized and inflamed, a fascial lesion heals by spider-webbing together with irregularly arranged collagen. Where fascia has been intermittently stressed (as when thoracic erectors support a forward-bobbing head), fibroblasts produce more linearly arranged collagen to reinforce the loaded myofascia.² Injuries or sedentary life-styles limit body motions, leaving fascia chronically shortened and nestled closely to adjacent fascia. This immobility, and thus the lack of movement between adjacent fascial sheets, permits fascia's collagen fibers to form intermolecular cross-bonds. In effect, the fascial sheets polymerize into a somewhat continuous, constricting straight-jacket of human flesh.

Fascia, as well as tendons, capsules, and ligaments, may polymerize and lose its flexibility after only three weeks of inhibited motion.^{3,4} Fascia adheres to fascia, with collagen fibers coiling in on themselves and shortening over time.⁵ This leads to a hyperfasciotonia that seriously compounds any hypermyotonia. Hypertonic fascial layers trap and squeeze nerve receptors, along with blood and lymph vessels. This creates and activates trigger points.

Muscle and its fascia can't be separated in that they function and dysfunction together.⁶ Where there is tight muscle, there is usually tight fascia. Fascia can become hypertonic and produce the same pathophysiological phenomena as tensed muscle. Fascial-release techniques, then, are as important in myofascial therapy as are muscle-relaxing techniques; both are critical to giving patients enduring relief from pain. Myofascial therapy is exactly that -- in name, in theory, and in practice.

References

1. Nimmo, R.L. "A Description of Receptor-tonus Technique." Unpublished Manuscript 1984; p.25.
2. Chamberlain, G.J. "Cyriax's Friction Massage: a review." *The Journal of Orthopaedic and Sports Physical Therapy* 1982; 4:p.20.
3. Akeson, W.H.; Amiel, D.; and LaViolette, D., et.al. "The Connective Tissue Response to Immobility: an accelerated aging response?" *Experimental Gerontology* 1968; 3:289-301.
4. Amiel, D.; Akeson, W.H.; Harwood, F.L.; and Mechanic, G.L. "The Effect of Immobilization on the Types of Collagen Synthesized in Periarticular Connective Tissue." *Connective Tissue Research* 1980; 8:p. 27.
5. Guyton, A.C. "Personal Verbal Communication," November 30, 1989.
6. Lowe, J.C. "Spasm." Houston, McDowell Publishing Co. 1983; p. 35.

Editor's Note: Dr. Lowe will be conducting his next Myofascial seminar in Boston, Massachusetts on April 21-22. You may register by dialing 1-800-327-2289.

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