

Management of Idiopathic Scoliosis(IS) with Treatment of Myofascial Pain and Dysfunction and Fascial Restriction

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PURPOSE: To identify the role of treatment of Myofascial Trigger Points(TrPs) and fascial restriction in managing pain and spinal curvatures of individuals who have or risk developing IS. **METHODS:** Case studies of 14 subjects include: (1) pre-adolescents at risk of developing IS,(2) adolescents with IS,(3) individuals with persistent pain after surgery for IS (4) older individuals with pain and uncorrected curvatures. Patients were examined and treated standing, seated, side lying, supine and prone to identify active and latent TrPs and fascial restriction and the relationship between pelvic unleveling, convexity and concavity of curvatures, and rib bowing. Fascial restrictions, TrPs, and associated joint dysfunction were treated using myofascial and fascial release(MFR and FR) [1,2] and fascial manipulation(FM)[3]; resulting changes in curvatures, pelvic unleveling and pain were monitored. Patients were also evaluated for ligamentous laxity: Benign Joint Hypermobility Syndrome(BJHS).

RESULTS: Patterns of fascial restriction and myofascial dysfunction are remarkably similar in individuals in each of the four categories. Over 80% of subjects treated have BJHS. Asymmetry in length of certain muscles and related fascial layers was found critical to treatment of IS: quadratus lumborum(QL), latissimus dorsi, iliopsoas dorsi(LD), anterior serratus(AS), and subscapularis. QL and iliopsoas and related fascia play a key role in affecting tilt of the lumbar spine and pelvis. These muscles have *angular or off center attachments* and thus can pull the spine into distortion relative to the pelvis. Different parts of the QL are shortened on convex and concave sides. The LD, AS, and subscapularis and related fascia play a key role in rib cage mobility and tethering the scapula and appear to exert mechanical force due to their *peripheral rather than central location*. Muscular forces are compounded by significant asymmetry in fascial tension, particularly along diagonal and spiral lines. *Elongation of asymmetrically shortened muscles and associated fascial restriction can result in decreased curvatures*. Photos and x-rays will demonstrate these changes, including cases of pre-adolescents and adolescents considered likely to require body bracing and possible surgery who experienced 8 to 10 degree reductions in curvatures and therefore did not require these interventions. Treatment of active TrPs in these muscles and related fascial restriction has been effective in reducing back pain often associated with IS. Referral patterns for TrPs in these muscles encompass the entire thoracolumbar spine [4]. Surgical rod placement may fail to restore balance to the myofascially dysfunctional muscles and related fascia and result in post-surgical pain.

CONCLUSIONS: Myofascial dysfunction and fascial restriction appear to contribute to IS and associated pain, especially in the presence of ligamentous laxity. Treatment can reduce curvatures and pain. Further research is needed.

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