

Balance Improvement with Structural Integration (Rolfing) in Persons with Chronic Fatigue Syndrome

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BACKGROUND Our research group has studied 1000 Gulf War Veterans and 300 civilians with chronic fatigue. We find decreased balance in almost half of those with symptoms, more marked in those also with fibromyalgia. 90% of civilians with fibromyalgia use some type of alternative medicine, and there is evidence that in these and other groups of patients, massage therapy decreases anxiety, pain and depression, and increases mobility, sleep and quality of life (Moyer 2004). Structural integration or Rolfing, is an alternative medicine technique developed by Dr. Ida Rolf, Ph.D. who was a biochemist at Rockefeller University. She used concepts from osteopathic medicine and other manual therapies to develop an organized approach to analyzing and adjusting tension in the body's fascial layers. The basic premise of structural integration is that the body is organized in space and in the gravitational field, especially the upright position. As a result of physical trauma or emotional stress muscles and other tissues become displaced with compensatory adaptations of other muscles and fascial connections, often at distant points in the body. Through shortening and thickening of connective tissue and habitual patterns of movement, these muscular changes become semi-permanent and involuntary. The Structural Integration practitioner is trained in a highly systematic approach to the whole body that consists of a protocol for 10 approximately one hour sessions. The patient is examined with inspiration and expiration and with walking and with motion at various joints to identify areas of restriction. The specific tissue density of areas palpated allows modification of the treatment plan during each session.

METHOD 10 persons with chronic fatigue syndrome and one with fatigue post World Trade Center were recruited from the private practice of a Certified Advanced Rolfing Practitioner (TWF) and brought to the War Related Injury and Illness Study Center, East Orange VA medical center for balance assessment using NeuroCom Sensory Organization Test (SOT) prior to 10 sessions of structural integration.

RESULTS The normal balance SOT is 80+/-5. 7/11 patients had initial balance scores below 70. Balance impairment was most noticeable in conditions 4,5 and 6 of the SOT in which the platform was sway referenced. Of the completed subjects to date, 6 with initial balance scores below 70 improved an average of 13 points and 3 with normal balance scores did not change; overall, balance SOT score improved from 61 ± 14 to 68 ± 9.

DISCUSSION Possible mechanisms for these results to be discussed include 1) effect of practice on test-retest 2) regression to the mean 3) altered gamma motor control 4) decreased anxiety and 5) additional sensory stimulation from increased fascial motion. Research based on the principle that addition of random noise improves signal detection thresholds has developed methods to improve balance in persons with diabetes, stroke and in the elderly using both vibration and electrical stimulation to the lower extremities (Priplata 2006).

Moyer CA. Rounds J. Hannum JW. A meta-analysis of massage therapy research. *Psychological Bulletin*. 130(1):3-18, 2004

Priplata AA. Patriitti BL. Niemi JB. Et al Noise-enhanced balance control in patients with diabetes and patients with stroke. *Annals of Neurology*. 59(1):4-12, 2006