

Osteopathic Manipulation and Tight Hamstrings

The purpose of this study was to correlate surface electromyography (EMG), palpatory findings, and hip range of motion in patients with a tight hamstring, before and after counterstrain release, an osteopathic manipulative treatment.

21 subjects age 16-57 were studied. Pretreatment forward and backward bending exercise was done to relieve stiffness of inactivity, followed by palpatory assessment. Active hip flexion and extension were measured, utilizing an inclinometer. A 20 second resting surface EMG was performed on both hamstring. The tighter side was treated. Post treatment EMG, palpation, and hip range of motion were done, the patient and treating physician were blinded to EMG and range of motion findings.

All subjects exhibited initial palpatory evidence of hamstring tension, as well as decreased tension following treatment. 19 subjects showed increased range of motion of hip flexion and extension. Range of motion increased 5.7 degrees of flexion and 2.9 degrees of extension. 15 subjects had normal EMG levels, 6 were elevated.

Conclusions: 1. Some tight hamstrings have normal EMG levels, some are elevated; 2. Counterstrain is clinically effective irrespective of EMG level; 3. Treatment improves active hip ROM releasing both hamstring and psoas tension.

----- *Counterstrain-induced tight hamstring release determined by palpatory diagnosis correlated with electromyography. JS Brault, PT, et al. 38th Annual AOA Conference Abstracts, 1994*