The effect of strain counterstrain (SCS) on forearm strength compared to sham positioning
by: Christopher K. Wong, Neil Moskovitz, Rico Fabillard


Abstract

Determine the effect of strain counterstrain (SCS) techniques on forearm pronation and supination muscle strength compared to passive sham positioning. Randomized, blinded, sham-controlled study. 12 healthy right-handed subjects (4 men, 8 women) with 19 included forearms (6 right, 13 left). Each forearm was individually and randomly assigned to the SCS or control group (9 SCS, 10 control). Subjects attended 3 sessions within 3 weeks. Initial forearm pronation and supination strength was assessed at the first session. Forearm muscle strength was assessed in a stable seated position using a hydraulic dynamometer with doorknob-shaped handle. Pre- and post-treatment strength was assessed during the second session, with the SCS group receiving 1 SCS treatment to the pronator and supinator muscles and the control group receiving passive sham positioning between assessments. The third session consisted of a 1-week follow-up forearm strength. At baseline, the SCS and control groups were comparable with respect to age, gender, height, weight, hand dominance, and initial pronator and supinator strength (p > 0.05). After treatment, control group strength remained unchanged (p > 0.05) while the SCS group increased pronation strength by 8.3% (p = 0.009) and supination strength by 11.9% (p = 0.046) from pre-treatment to follow-up 1 week later. SCS group strength increased more compared to the control group for pronation (p = 0.045) and supination (p = 0.059). Forearm strength increased after SCS in a healthy population with muscle tenderness, with greater strength increase apparent than after passive sham positioning.