

Immediate effects of the strain/counterstrain technique in local pain evoked by tender points in the upper trapezius muscle

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Clinical Chiropractic, Vol. 9, No. 3. (September 2006), pp. 112-118. doi:10.1016/j.clch.2006.06.003
Key: citeulike:9755131

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Abstract

Purpose The aim of this study was to compare the immediate effect, on pain threshold, following a single treatment of tender points in the upper trapezius muscle involving a classical and a modified application of the strain/counterstrain technique. **Methods** Fifty-four subjects presenting with mechanical neck pain, 16 men and 38 women, aged 18–64 years old, participated in this study. Subjects underwent a screening process to establish the presence of tender points in the upper trapezius muscle. Subjects were divided randomly into three groups: group A was treated with the classical strain/counterstrain technique, group B was treated with the modified application of the technique which included a longitudinal stroke during the application of strain/counterstrain, and group C was a control group. The outcome measure was the visual analogue scale assessing local pain elicited by the application of 4.5 kg/cm² of pressure on the tender point. It was assessed pre-treatment and 2 min post-treatment by an assessor blinded to the treatment allocation of the subject. **Results** Within-group changes showed a significant improvement in the visual analogue scale following either classical or modified application of the strain/counterstrain technique ($P < 0.001$). The control group did not show any change ($P > 0.3$). Pre-post effect sizes were large in both strain/counterstrain groups ($D = 1.1$), but small in the control group ($D = 0.01$). Differences were found between both strain/counterstrain groups as compared to the control group ($P < 0.001$), but not between both strain/counterstrain groups ($P = 0.8$). **Conclusions** Our results suggest that strain/counterstrain was effective in reducing tenderness of tender points in the upper trapezius muscle. The application of a longitudinal stroke during the strain/counterstrain did not influence the effectiveness of the classical description of the technique. **Keywords:** Strain/counterstrain; Tender points; Visual analogue scale; Upper trapezius muscle