

Scapular taping in the therapeutic management of sub-acromial impingement symptoms — exploration of a clinical theory

VALERIE SPARKES, MICHAEL SMITH and MONICA BUSSE Research Centre for Clinical Kinesiology, School of Healthcare Studies, Cardiff University, UK

Introduction. *Altered scapular rotator muscle activity has been implicated in symptomatic shoulder dysfunction of a sub-acromial impingement (SI) nature (Michener et al., 2003). Scapular taping is a clinical intervention frequently applied in an attempt to change activity of the upper fibres of trapezius (UFT) and lower fibres of trapezius (LFT). The aim of the present study was to investigate the clinical theory that with scapular taping in situ, UFT activity would be inhibited, LFT facilitated, and accompanying symptomatic relief would occur. Ethical approval was granted by the School of Healthcare Studies Ethics Committee, Cardiff University and by the South East Wales Research Ethics Committee. Method.* Twenty subjects who demonstrated SI symptoms on clinical testing were recruited. Surface electromyography (EMG) was used to measure change in the muscle activity of UFT and LFT under 'no tape' and 'with tape' conditions. The test movement used was repeated humeral elevation in the scapular plane and the intervention was a commonly used scapular taping technique (McConnell, 1999). Within-muscle differences between conditions were analysed using the related t-test. Subjective data were collected regarding symptom response to taping. **Results.** *There was a highly statistically significant ($p < 0.001$) reduction in the EMG activity of the UFT but no statistically significant change in LFT activity ($p = 0.132$) with taping in situ. Forty-five per cent of subjects reported an improvement in their symptoms and/or a feeling of beneficial support for their shoulder when the tape was in place. However, 40% reported there being no effect experienced and 15% stated that the tape felt restrictive. Conclusions.* *This study provides support for the clinical theory that, in subjects with SI symptoms, UFT activity is inhibited in the presence of scapular taping. However, the study findings do not provide evidence of LFT facilitation. Limited support is provided for the theory that symptomatic relief accompanies changes in scapular rotator activity. Copyright © 2007 John Wiley & Sons, Ltd.*

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