ABSTRACT

The effects of a sacroiliac belt on postural control: A pilot study.

David A Taylor PhD DC1* and Kambiz Saber-Sheikh PhD2
1Private Practice, Eastbourne Chiropractic Clinic, 5 Old Orchard Road, Eastbourne BN21 1DB, UK
2Clinical Research Centre for Health Professions, University of Brighton, 49 Darley Road, Eastbourne. BN20 7UR, UK
*drdtaylor@btinternet.co.uk

Introduction: Many patients experience pain relief when using a pelvic belt. Studies have indicated that the mobility of the sacroiliac joints (SIJs) is restricted by application of a belt and the force required for relief is small [1]. In clinical practice, observation of postural sway is noted for patients considered to have hypermobile SI joints, as indicated by a positive arm fossa test [2], or positive Hochman’s Standing Stress Test [3] (SOT Category II). The purpose of this study was to investigate an objective method of measuring the effects of a pelvic belt on postural control so that the use of the belt may be included in the management of patients with hypermobile SIJs.

Method: 19 volunteers were used in this study under 3 conditions: without a belt, wearing a pelvic belt manufactured for the Anglo-European College of Chiropractic (belt 1), and wearing a commercial Serola belt (belt 2) (Serola Biomechanics Inc, 5281 Zenith Parkway, Loves Park, IL (USA)). For each condition, each subject stood on a force plate ( OR6-7 AMTI Inc., 176 Waltham St, Watertown, Ma (USA)) with feet apart and eyes opened for 60 seconds. The force plate was used to obtain the Centre of Pressure (CoP) [4], in the X and Y planes, which was then analysed as a function of time to give the Mean CoP, Standard Deviation of CoP (sway), and range of CoP. Measurements were repeated 3 times. Arm fossa and standing stress tests were performed on each subject to check for sacroiliac hypermobility.

Results: averages and standard deviations for the three trials per condition were calculated and compared. For example, the mean CoPx values for the 19 subjects were calculated to be 6.7mm, 5.6mm and 7.3mm without a belt, and for belts 1 and 2, respectively. Initial SPSS analysis showed that no statistical significant difference in the measurements with and without either of the 2 belts for mean CoP, sway and range. Further calculations are yet to be performed for sway velocity and sway area.

Conclusion: Data analysis is still ongoing. However, further study is indicated, with larger sample groups, to include symptomatic and non symptomatic subjects.