The effects of manual pelvic compression on trunk motor control during an active straight leg raise in chronic pelvic girdle pain subjects.

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Abstract

A sub-group of pelvic girdle pain (PGP) patients with a positive active straight leg raise (ASLR) responds positively to the application of external pelvic compression during the test. This study investigated the effect of this phenomenon on electromyographic (EMG) activity of the trunk muscles and intra-abdominal and intra-thoracic pressures in subjects with a unilateral sacroiliac joint (SIJ) pain disorder (n=12). All subjects reported reduced difficulty ratings during an ASLR with pelvic compression (paired t-test: p<0.001), yet no statistically significant changes in the muscle activation or pressure variables were found. However, visual inspection of the data revealed two divergent motor control strategies with the addition of compression. Seven subjects displayed characteristics of a decreased EMG profile, while in the other five subjects the EMG profile appeared to increase. As such this study provides preliminary evidence of two disparate patterns of motor control in response to the addition of pelvic compression to an ASLR. The findings may reflect different mechanisms, not only in the response to pelvic compression, but also of the underlying PGP disorder.

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