

School of Health Professions

Discipline: Chiropractic

South St Campus

90 South Street, Murdoch

Western Australia 6210

Telephone: +61 8 9582 2669

## **The inter-rater reliability of static palpation of the thoracic spine for eliciting tenderness and to test for a manipulable lesion.**

Amber M. Beynon<sup>1</sup>, Bruce F. Walker AM<sup>2</sup>, Jeffery J. Hebert<sup>3</sup>.

<sup>1</sup>Student Researcher: Honours students in Chiropractic at Murdoch University, Murdoch, Western Australia

<sup>2</sup>Primary Supervisor: Associate Dean, Research, School of Health Professions, Murdoch University, Murdoch, Western Australia

<sup>3</sup>Co-Supervisor: Professor and Research Chair in Musculoskeletal Health, Faculty of Kinesiology, University of New Brunswick, Canada

Correspondence should be addressed to Amber M Beynon; [A.Beynon@murdoch.edu.au](mailto:A.Beynon@murdoch.edu.au)

**Introduction:** Static palpation is commonly used to detect “manipulable lesions” and within chiropractic clinics the thoracic spine is treated in 40-45% of patients. However there is little evidence on the reliability of static palpation within this spinal region and there is no agreement on the magnitude of tenderness needed to determine whether a “manipulable lesion” is present or not.

**Objectives:** The primary aim was to determine the interrater reliability of eliciting tenderness and segmental stiffness in the thoracic spine using static palpation and to determine if standardised training increases reliability. The secondary aim was to explore expert consensus on the level of tenderness required to locate a manipulable lesion.

**Methods:** Two experienced chiropractors (raters) used static palpation of T1-T12 on two occasions (pragmatic and standardised approaches), where participants rated tenderness on an 11-point numerical pain rating scale (NPRS) and the raters judged segmental stiffness. We calculated interrater agreement using percent agreement and Kappa coefficients. In the secondary study an expert panel of 10 chiropractors took part in a Delphi study which asked about the level of quantifiable tenderness required at a segmental spinal level to be meaningful in locating a manipulable lesion.

**Results:** The Delphi study demonstrated a minimum tenderness of 2 out of 10 to be considered as a potential manipulable lesion. Thirty-six participants were enrolled for the reliability study. Overall there

was below chance agreement for spinal stiffness. When the results were adjusted for prevalence and bias, moderate agreement was demonstrated. Generally, there was fair to substantial agreement for segmental tenderness. The standardized method had no significant impact on increasing reliability.

**Conclusion:** There was overall moderate reliability for static palpation for stiffness and tenderness, with tenderness showing a higher level which may have implications for clinical practice. Further research could investigate combinations of assessment techniques to potentially better inform clinical practice.