

Abstract

Objectives: a) To better understand the association and potential causality of hip joint hyper/hypomobility on lower back pain. b) Determine whether an association exists between symptomatic lumbar ranges of movement (ROM) and their coupled hyper/hypomobile hip ROM. c) Compare hip rotation ROM across the 0°, 30° and 90° sagittal plane positions.

Design: A quantitative, cross-sectional, analytical study.

Participants: Two groups, with participants over the age of 40, were compared. Namely, 63 participants with chronic lower back pain (lumbar pain group) and 32 participants without (control group).

Outcomes measures: Data were collected on participant, activity and lower back pain parameters. Passive hip ROM was measured with an Inertial Measurement Unit (IMU). The differences between the lumbar pain and control group's hip ROM was analysed.

Results: a) No significant difference was found between the group's hip ROM, however 11 of the 15 tested side-to-side hip ROM variables showed significance in the lumbar pain group, while only five showed asymmetry in the control group. b) Only iliopsoas length showed some significance across asymptomatic, symptomatic and control lumbar extension pain subgroups. c) Left and right hip external rotation (ER) range varied significantly between each of the three sagittal positions. Although not always significantly different, right hip internal rotation (IR) followed a similar pattern between the three positions. Left hip IR ROM was less consistent across the three positions.

Conclusion: The treatment of hip ROM side asymmetries is a consideration in the management of non-specific lower back pain.