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## Decrease of range of motion in hip rotation in patients with unilateral low back pain

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Chronic low back pain is high prevalent and become economic burden in the modern society. The current model of pain management adapted a bio-psycho-social concept to understand the possible mechanism and generating novel intervention. Tradition anatomy of muscular skeletal system focuses on the morphology of individual muscles and joints. However, the concept of bio-psycho-social model challenges the traditional concept. The net-work concept of the bio-psychosocial system provides the possibility of interaction among systems. The concept of biotensegrity connecting by fascia network provides a paradigm shift in viewing the human body. We thus hypothesises that patients with chronic unilateral low back pain, with possible imbalance tension in the myofascial network of the low back will result in asymmetrical movement of adjacent hip joint in three dimension, particularly in rotation. The purpose of this investigation is to compare the hip rotation in patients with unilateral low back pain and asymptomatic control. 19 patients with unilateral low back pain and 24 asymptomatic participants were recruited. The exclusion criteria are leg length discrepancy and scoliosis. The hip rotation was measured in prone position with the knee in flexion position for both legs. The repetitive ANOVA (group\*side\*rotation) was run. The result showed interaction between side and rotation. The left side has significantly less internal rotation. The significant group effect showed the patient has significantly less rotation in internal and external of both legs. For both patients and asymptomatic participants, left internal rotation is more limited than the right side. The results indicated that the limitation of the hip rotation in both internal and external direction in both legs in patients with unilateral low back pain and support the net-work concept of muscular skeletal system, while pain in the low back related to adjacent hip joints in rotation bilaterally.

### Biography

Shwufen Wang has completed his PhD from Medical College of Virginia, Virginia Commonwealth University. She is currently the Professor in School of Physical Therapy, National Taiwan University. Her research interest is on pain mechanism and pain management of chronic spinal pain in relation to core muscle stability and spinal integrity.

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