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# CASE REPORT USING THE SELECTIVE FUNCTIONAL MOVEMENT ASSESSMENT AND REGIONAL INTERDEPENDENCE THEORY TO GUIDE TREATMENT OF AN ATHLETE WITH BACK PAIN: A CASE REPORT

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## ABSTRACT

**Background:** Despite the multidirectional quality of human movement, common measurement procedures used in physical therapy examination are often uni-planar and lack the ability to assess functional complexities involved in daily activities. Currently, there is no widely accepted, validated standard to assess movement quality. The Selective Functional Movement Assessment (SFMA) is one possible system to objectively assess complex functional movements. The purpose of this case report is to illustrate the application of the SFMA as a guide to the examination, evaluation, and management of a patient with non-specific low back pain (LBP).

**Case Description:** An adolescent male athlete with LBP was evaluated using the SFMA. It was determined that the patient had mobility limitations remote to the site of pain (thoracic spine and hips) which therapists hypothesized were leading to compensatory hypermobility at the lumbar spine. Guided by the SFMA, initial interventions focused on local (lumbar) symptom management, progressing to remote mobility deficits, and then addressing the local stability deficit.

**Outcomes:** All movement patterns became functional/non-painful except the right upper extremity medial rotation-extension pattern. At discharge, the patient demonstrated increased soft tissue extensibility of hip musculature and joint mobility of the thoracic spine along with normalization of lumbopelvic motor control. Improvements in pain exceeded minimal clinically important differences, from 2-7/10 on a verbal analog scale at initial exam to 0-2/10 at discharge.

**Discussion:** Developing and progressing a plan of care for an otherwise healthy and active adolescent with non-specific LBP can be challenging. Human movement is a collaborative effort of muscle groups that are interdependent; the use of a movement-based assessment model can help identify weak links affecting overall function. The SFMA helped guide therapists to dysfunctional movements not seen with more conventional examination procedures.

**Level of Evidence:** Level 4

**Keywords:** Functional movement, low back pain, Selective Functional Movement Assessment

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The patient signed an informed consent allowing the use of medical information and photos for this report and received information on the institution's policies regarding the Health Insurance Portability and Accountability Act.

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