

Regional Interdependence

Regional interdependence is a concept that is critical to rehabilitation professionals who are treating clients with many common conditions, such as shoulder impingement, shoulder tendinopathy, chronic neck or chronic low back pain, anterior knee pain (patella-femoral pain syndrome), and others. There can be many meaningful impairments (such as hip muscle weakness, poor scapular stability, or thoracic spine stiffness) that may be seemingly unrelated to the primary complaint (such as knee pain, shoulder pain, or low back pain). However, in many cases, these impairments contribute to the primary complaint. If anyone doubts the relationship between impairments in hip function and knee pain, just ask yourself where the femur bone (thigh bone) starts - we know it ends at the knee.

At Evolution Physiotherapy, we utilize the Selective Functional Movement Assessment (SFMA) to assess fundamental patterns of movement such as bending and squatting in clients with musculoskeletal pain. Regional interdependence is the hallmark of the SFMA.

The following paragraphs (in italics) were written by Gray Cook, one of the clinicians who designed the SFMA. For further information, visit the Functional Movement Systems website.

“Once Clinical Predictive Rules and diagnosis-specific techniques are exhausted, applying the SFMA model will allow for individualized exercise prescription and progression, which encompasses the concept of regional interdependence. As musculoskeletal system experts, it is essential that healthcare providers understand the relationships between body segments and how impairments in one body region may adversely affect function of another body region. Approaching therapeutic exercise prescription from a movement perspective model allows the concepts of muscle imbalance and regional interdependence to be addressed in a logical, methodical manner.”

“Modeled after Cyriax’s selective tissue testing, each test of the SFMA is scored as functional/non-painful, dysfunctional/non-painful, functional/painful or dysfunctional/painful. The goal for the clinician is to identify the most dysfunctional non-painful movement pattern and break the pattern down to identify the underlying cause of the dysfunction. This includes using traditional muscle length and joint assessment tests which lead to corrective manual therapy and exercise interventions. Emphasis is placed on identifying the most dysfunctional patterns. The model calls for the intervention to be directed only at the non-painful patterns. This ensures that the adverse effects of pain on motor control will not hinder corrective strategies.”

“The SFMA serves to efficiently integrate the concepts of posture, muscle balance and the fundamental patterns of the movement system into musculoskeletal practice. Additionally, it provides feedback for the effectiveness of the therapeutic exercise program, which targets the dysfunctional movement pattern and related impairments.”