

# *Discover the Role of the Pelvis in Groin Pain, Knee Pain, and Recurrent Hamstring Injuries*

## *Course Description*

Low back pain and pelvic girdle pain are common in all levels of recreational and elite athletes. So too are lower extremity injuries such as groin pain, osteitis pubis, clicking hips, recurrent quadriceps and hamstring strains, and ITB syndrome. A challenge for therapists is that often these problems are recurrent and chronic, and evidence to indicate what the most effective treatment protocol for these injuries is still lacking. The pelvis is a key area of load transfer between the lower extremity and the spine. Poor control of the joints of the pelvis, suboptimal muscle synergies, and altered alignment have the potential to affect efficiency and length-tension relationships of all the muscles attaching to the pelvis, and create excessive compression and tension loading through various structures of the hip and knee. These altered biomechanics can predispose the athlete to injury in the lower extremity, and if not corrected can precipitate re-injury. Recent research has shown that patients with posterior pelvic girdle pain and failed load transfer of the pelvis have altered timing and recruitment of the biceps femoris. Studies have also shown that athletes with groin pain have alterations in timing of the transversus abdominis muscle, one of the key lumbopelvic stabilizer muscles. Clinically, different patterns of asymmetry and dysfunction of the hip and local trunk muscles have been observed in patients with sacroiliac joint dysfunction and a variety of hip and knee problems. Although further research is still needed, it is apparent that treatment of chronic, recurrent problems such as groin pain, osteitis pubis, iliotibial band syndrome and hamstring strains require a careful assessment of the pelvis, with particular attention to load transfer tests.

The purpose of this 3-day evidence-based course is to review the recent advances in science and discuss the role of the pelvis in common hip and knee problems. The clinical application for assessment and treatment will be based on a new model – the System based classification for Mechanism based pain syndromes (Lee & Lee) and will be highlighted and used extensively in this course.

## *Course Outline/Objectives*

Theory to be covered:

- Current evidence on the known biomechanics of the joints of the pelvic girdle & hip
- Current models of how the joints of the trunk, pelvis and hips are stabilized during different loading tasks
- Common clinical patterns of altered hip and knee function which occur as a result of failed load transfer (non-optimal strategies for function & performance) through the pelvis

Practical – Demonstrate and/or Practice:

- Functional tests for load transfer through the pelvic girdle, hip and knee (tests to identify non-optimal strategies)
- Joint mobility/stability tests for the sacroiliac joint, pubic symphysis, and hip (articular system tests)
- Tests which analyse recruitment patterning of the local muscle system and recognize common substitution strategies (Real-time ultrasound imaging will be demonstrated for transversus abdominis and the pelvic floor via video clips) (neural system tests)
- Tests which analyse myofascial deficits (true hamstring, quadriceps and/or adductor strains etc) (myofascial system tests)

Clinical Reasoning: Theory & Discussion Pertaining to:

- Common patterns of pelvic dysfunction and how these patterns relate to lower extremity injuries.
- How to develop a multi-modal treatment program which includes manual therapy, dry needling, education and exercise.  
How to use taping and external supports of the pelvis during sport to augment training

Practical – Demonstrate and/or Practice:

- Specific mobilization and myofascial release techniques for the sacroiliac and hip joints
- Motor control training for the local muscle system – this training uses imagery and touch for facilitation. The focus will be on how to find the optimal strategy and ensure that this strategy translates into better loading and function for the lower extremity
- Specific hip stabilization and exercises for motor control to ensure optimal balanced recruitment of the psoas, tensor fascia latae, quadriceps, adductors, and medial/lateral hamstrings during functional activities
- Exercise progressions and key components to take the rehabilitation program from the acute stage to restoring full return to sport and activity