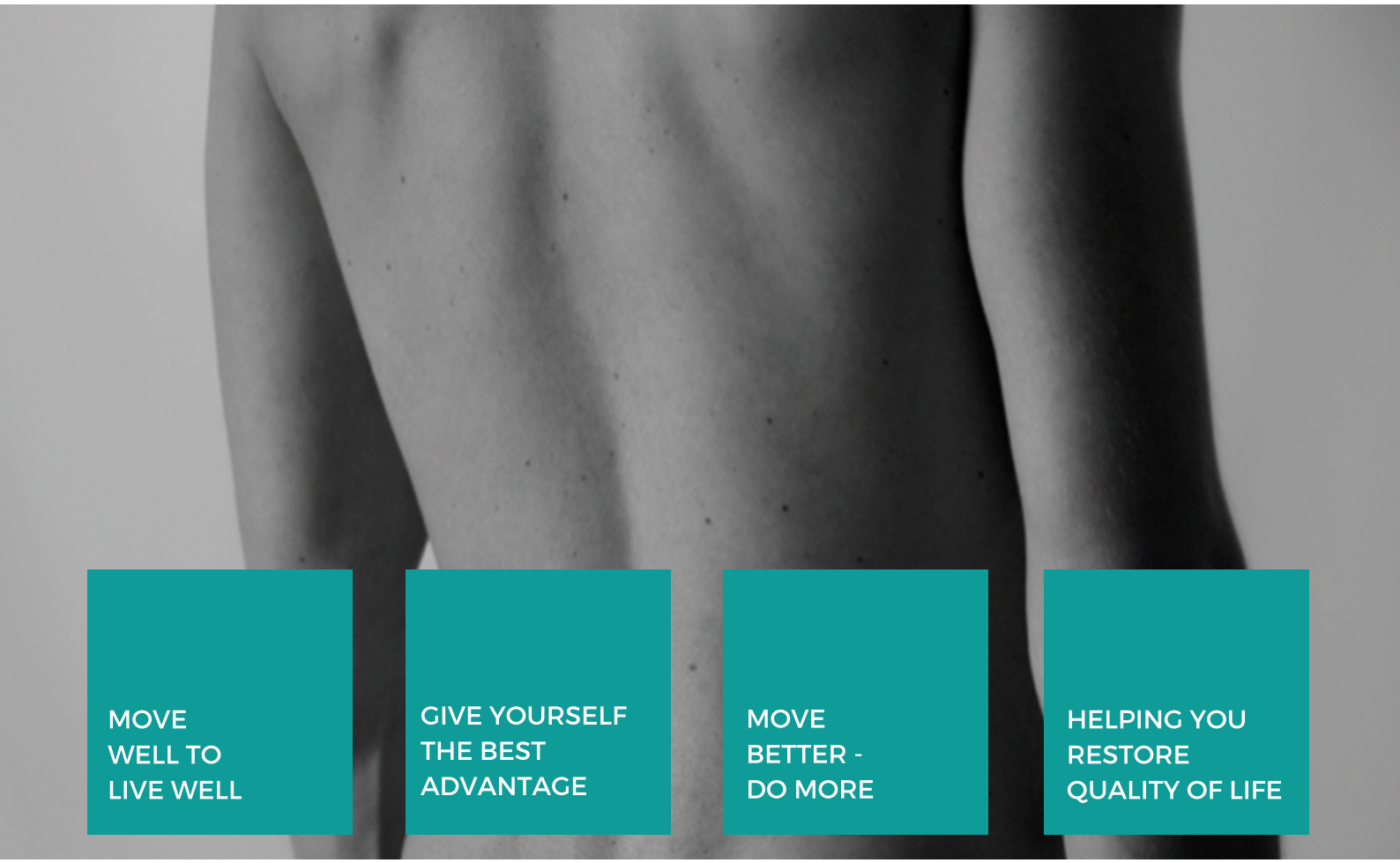
SEMINAR

MOVEMENT SOLUTIONS FOR RECURRENT HAMSTRING INJURY



KINETIC CONTROL

20 YEARS OF OPTIMISED MOVEMENT HEALTH

THE PROBLEM

Recurrent hamstring injury and pain is a very common and often distressing condition that starts with an initial significant injury followed by multiple episodes of hamstring pain and insidious or minor incident recurrence. 70% of these injuries present in the biceps femoris muscle.

Primary contributing factors include:

- Inefficient low threshold recruitment of the gluteals and adductor magnus and uncontrolled lumbar extension result in increased low threshold recruitment of the hamstrings for postural control
- Excessive low threshold recruitment of the hamstrings contributes to failure of efficient phasic hamstring recruitment for high-speed limb function, especially when the hamstrings are required to elongate rapidly in sprinting

Secondary contributing factors:

- Limited hamstring extensibility contributes to secondary uncontrolled lumbar flexion with consequential neurodynamic involvement
- Signs of sciatic and obturator nerve neurodynamic involvement
- Pain radiating to the ischium and posterior thigh from myofascial trigger points, the posterior femoral cutaneous nerve

THE SOLUTIONS

Treating and managing recurrent hamstring injuries requires the diagnosis of the potential contributing structures and mechanisms along with a clinical reasoning strategy to determine priorities in management. This involves a multifactorial approach to management which includes:

1. Movement & Performance Screening: - Linked kinetic chain movement analysis
2. Identify relevant Uncontrolled Movements to prioritize in movement control retraining
3. Re-establish dynamic control of the movement control impairments (UCM)

o Low and high threshold co-ordination strategies
o Low and high threshold muscle specific retraining and reconditioning

4. Mobilise relevant restrictions
5. Restore appropriate high threshold recruitment and function
6. Manage myofascial trigger point influences
7. Manage neurodynamic influences
8. High-performance integration
9. Follow-up: maintenance & strategies to prevent recurrence

LEARNING OUTCOMES

Following this seminar, the participants will be able to:

- Understand the contributing factors the influence the problem of recurrent hamstring injuries
- Recognise the features and presentation of many potential sources of pain in this region
- Become proficient at palpation and manual assessment of these structures to make a more detailed differential diagnosis of the structures and tissues that contribute to pain
- Perform a movement based biomechanical evaluation of the lower quadrant and analyse related impairments
- Test for and mobilise articular and myofascial restrictions that contribute to mechanical stress and movement compensation in this area
- Perform movement control tests to identify the site and direction of uncontrolled movements in the lumbar spine, pelvis and leg that are related to recurrent hamstring injuries
- Develop appropriate movement control retraining options to recover, low threshold (alignment and coordination) and high threshold (strength and speed) impairments identified in the movement control tests
- Assess for and treat related myofascial trigger point contributions to this problem
- Evaluate and manage potential neurodynamic influences
- Use a clinical reasoning strategy to develop priorities in management planning
- Understand the value and benefits in movement control rescreening to minimise recurrence of hamstring injury