

LUMBOPELVIC MOTOR CONTROL: An integrated approach to clinical assessment and treatment of motor control dysfunction in low back pelvic pain

Speaker

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Synopsis:

This clinical workshop will present an integrated approach to motor control training in low back and pelvic pain. The comprehensive and individualised approach draws on latest developments in research and practice in the field of spine control.

Abstract of the course

Low back and pelvic pain is associated with motor control dysfunction. However, current models of training are often overly simplistic and emphasis is placed on optimising static stability, without consideration of the need for dynamic control. Newer models of rehabilitation that integrate the function of the muscle system are required. Integral to this function is rehabilitation of the function of the deep muscles, including transversus abdominis, multifidus, pelvic floor and the diaphragm, which provide an opportunity to control intervertebral motion, without restricting mobility of the spine and pelvis. However, this must be integrated with training of the entire muscle system in an integrated functional manner including control coordination of these muscles for breathing and continence in addition to their contribution to stability and protection of the spine and pelvis.

This course will:

- Consider the presentations of motor control dysfunction in low back and pelvic pain.
- Present an integrated model of dynamic control that considers the delicate balance between movement and stability
- Integrate contemporary models of neurophysiology of pain with motor control training.
- Consider the challenge to coordinate the multiple functions of the trunk muscles, including breathing and continence.
- Present the clinical relevance of the most current research evidence
- Review the basic components of assessment and treatment and introduce advanced clinical skills.
- Discuss the barriers to clinical improvement and strategies to overcome them
- Develop clinical strategies to evaluate and train the balance between movement and stability from initial assessment to discharge
- Integrate ultrasound imaging into rehabilitation with careful consideration of pros and cons of this approach

The program involves specific motor learning strategies for restoring the function of the deep muscle system and integration of the deep and superficial muscle systems. Assessment strategies will be introduced that provide clinical methods to identify normal and abnormal strategies of muscle activation. Participants will be taken

through the rehabilitation process from the initial assessment to high-level rehabilitation.

3 objectives of the course

- Provide an evidence-based rationale for a rehabilitation approach aimed at restoring the control and coordination of the trunk muscles.
- Develop clinical skill of assessment and rehabilitation of the trunk muscles for patients with acute and chronic low back and pelvic pain and provide guidelines for progression of exercise from the initial assessment to discharge from rehabilitation.
- Provide theoretical framework to facilitate communication and discussion of the approach with patients and peers.

General objective

- This course aims to provide participants with the skills to plan effective motor control interventions for low back pain utilising latest evidence and providing skills to interpret and integrate research based evidence and clinical practice.

Brief CV of Paul Hodges

Paul Hodges is a Professor and NHMRC Senior Principal Research Fellow in the Division of Physiotherapy at the University of Queensland and Director of the NHMRC Centre of Clinical Research Excellence in Spinal Pain, Injury and Health. Paul has doctorates in both physiotherapy and neuroscience and his work blends neurophysiological and biomechanical methods to understand the control of movement and stability and how this changes when people have pain. In both 2006 and 2011 Paul was awarded the ISSLS Prize from the International Society for the Study of the Lumbar Spine. This is the premier international prize for back pain research. In 2010 he received the Achiever Award from the National Health and Medical Research Council as the highest ranked Research Fellow across all disciplines in Australia. His primary research interests include investigation the relationship between pain and motor control; the coordination of the multiple functions of the trunk muscles; the effect of exercise in interventions on musculoskeletal pain; and the biomechanical mechanisms for control of the spine. In addition to his research in Brisbane, Paul has ongoing collaborations with laboratories in Sydney, Melbourne, Sweden, USA, the Netherlands, Denmark and South Africa. He has published more than 250 peer reviewed papers and book chapters, presented >120 invited lectures at major conferences in 30 countries and received more than \$AU22 million in research grants from the NHMRC, ARC and International research funds.

Course Program

Day 1	
9.00-9.30	Introduction – the issues
9.30-10.30	Dynamic control of the spine (Lecture)
10.30-11.45	Pain (Lecture)
11.45-12.00	Coffee
12.00-12.30	Introduction to the clinical approach (Lecture)
12.30-2.00	Assessment & training of muscle activation: Anterior trunk muscles (Discussion/demonstration/practical)
1.30-2.30	Lunch
2.30-4.15	Assessment & training of muscle activation: Posterior trunk muscles (Discussion/demonstration/practical)
4.15-4.30	Coffee
4.30-5.00	Coordination of functions (Lecture)
Day 2	
9.00-11.00	Breathing & the diaphragm: Assessment & training (Discussion/demonstration/practical)
11.00-11.15	Coffee
11.15-12.30	Pelvic floor muscle function: Assessment & training (Discussion/demonstration/practical)
12.30-1.30	Movement patterns and posture (Lecture)
1.30-2.30	Lunch
2.30-3.30	Movement patterns and posture: Assessment & training (Discussion/demonstration/practical)
3.30-4.15	Progression of exercise (Discussion/demonstration/practical)
4.15-4.30	Coffee
4.30-5.00	Effects of training and evidence of efficacy (Lecture/discussion)