

## MASTERING MOVEMENT OF THE HIP & PELVIS

Do you have a clear understanding of when, why and how to assess and address muscle dysfunction around the hip and pelvis, in order to optimise and expedite patient outcomes?

Do you find yourself prescribing the same exercises for every hip & groin pain patient, regardless of their presentation?

Do your patients perform the same program for weeks or months without progressions or an understanding of what they are attempting to achieve and why?

Would you like to Fast Track your hip and groin Rehab?

Movement patterning and muscle function around the hip and pelvis are key considerations for any lumbopelvic or lower limb problem and may even impact on upper limb function. Assessment and retraining in this region require a specific and targeted approach that should consider the multifaceted requirements for optimal function and the limitations of an individual's musculoskeletal system. With respect to current practices around muscle testing and exercise prescription, often strength is only consideration. While this is an important consideration, normal results on strength testing may be returned from a muscle synergy within which significant dysfunction exists. If weakness is not the primary deficit, generic strengthening may worsen rather than improve the situation by reinforcing poor recruitment strategies or imbalance in the contribution of muscles within a movement synergy e.g. TFL within the abductor synergy. In exercise literature, often maximal EMG is the sole indicator used for exercise selection. EMG levels are not reflective of force generation and high levels of EMG may simply reflect active insufficiency where the muscle is not at an optimal range to generate force efficiently. This premise also assumes that maximal recruitment is optimal for muscle retraining and musculoskeletal health. While EMG levels above 40% of a maximal voluntary contraction are required for strength development, other factors should be considered. Choosing an exercise with highest %MVC in a disadvantageous length-tension relationship, while encouraging poor recruitment patterning and efficiency with high load imposed on underlying joints or soft tissues, may not be in the best interests of achieving optimal or painfree function.

## Online Learning Component *(4-5 hours)*

Learning Objectives: The online component aims to

- Provide detailed information on muscle function and dysfunction for each group of synergists around the hip – hip flexors, abductors, extensors, external rotators, adductors
- Present this information in a clinical context to allow participants to understand potential clinical implications and applications
- Enhance clinical reasoning skills required for optimal assessment and development of therapeutic exercise for the hip & pelvis
- Challenge participants to re-examine their own clinical practice in the light of the presented evidence base
- Stimulate new thought & provide direction for those who may be interested in contributing to the research base that is shaping contemporary clinical practice in this field.

## MASTERING MOVEMENT OF THE HIP & PELVIS

### Practical Workshop (1 Day)

**Learning Objectives:** Upon completion of this course, participants should be able to:

- Perform a multifaceted assessment of muscle function for each group of synergists around the hip – hip flexors, abductors, extensors, external rotators and adductors, *using standardised, objective measures*
- Determine the most appropriate exercise approach to target specific impairments in:
  - Muscle size & strength
  - Muscle endurance – global or regional
  - Kinematic patterns
  - Muscle recruitment patterns
  - Power, rate of force development, plyometric ability, agility
- Progress an exercise program in an appropriate & timely manner, using key markers for exercise effect & tolerance.

## ANTERIOR HIP & GROIN PAIN

### CONTEMPORARY DIAGNOSTIC & MANAGEMENT STRATEGIES

Do you find yourself using the same management approaches for patients with hip pain, regardless of their presentation?

Do you have a clear understanding of how morphology, loading patterns and muscle dysfunction may be driving anterior hip and groin pain?

Would you like to learn how to address these issues to optimise and *FAST-TRACK YOUR OUTCOMES?*

An exploration of the available anterior hip and groin pain literature reveals a minefield of inconsistent diagnostic labels and a high volume of imaging and surgical papers describing a myriad of pathologies which may or may not be associated with a patient's presenting signs and symptoms. In recent years there have been some positive advances in defining clinical entities and diagnostic processes. Yet there is a persistent lack of clarity and evidence around best management. This may be related to undue focus on remediating a particular structural pathology or physical impairment, without adequate consideration of mechanisms or drivers of pain and load intolerance. Within the contemporary biopsychosocial model, health professionals acknowledge that patients may present with varying combinations of psychological and physical overload. While the psychosocial components of management are of high importance, these will not be addressed in detail within this forum, but much education is widely available on this topic. The primary focus will be on understanding and addressing mechanisms of physical overload and impairments associated with anterior hip and groin pain.

### Online Learning Component (4-6 hours)

#### Understanding definitions, pathology & mechanisms

Learning Objectives: The online component aims to

- Clarify definitions of anterior hip and groin pain
- Explore factors which may influence intra-articular hip joint loads – a. morphological variants (eg FAI, acetabular dysplasia, femoral version, capsulo-labral deficits), b. adverse joint loading associated with kinematics and neuromotor function, c. the adequacy of joint protection mechanisms.
- Explore factors which may influence extra-articular loads in the anterior hip region – a. morphological variants (eg. AIIIS/Subspine Impingement), b. adverse soft tissue loading associated with kinematics and neuromotor function (focus on hip flexors).
- Provide an overview of key load management and therapeutic exercise strategies for anterior hip pain, particular to the patient presentation and associated difficulties with mechanical load transfer.
- Provide an update on groin pain clinical entities and where the literature sits with regard to prevention and management.

## ANTERIOR HIP & GROIN PAIN

### Practical Workshop (1 Day)

The practical workshop first provides participants with 'the tools' for assessment of anterior hip & groin pain – diagnostic test procedures for intra and extra-articular sources of nociception and assessment of drivers such as FAI, femoral version, hypermobility, focal instability and key postures and movement patterns. Standardised measurement of key impairments will also be covered, important for reliable measurement of outcomes. Armed with a full toolkit and a clear understanding of how morphology, loading patterns and muscle dysfunction may be driving anterior hip and groin pain, participants will then be guided through a clinical reasoning model to help determine the key drivers and optimal management approach for each individual.

The approach can be simply described as **the What, Why & How of Managing Anterior Hip & Groin Pain**.

### WHAT?

#### WHAT HURTS?

- What is the position or direction specific load intolerance with which the patient presents ie what postures or movements/functions are most provocative?
- What structures may be involved in local nociception? (Keeping in mind that there may be multiple sources of nociception and often all related to the same mechanism of overload or driver)

### WHY?

#### WHY DOES IT HURT?

- Explores the drivers of position or direction specific load intolerance - morphology, loading patterns, impairments - muscle dysfunction, ROM restriction, neurodynamic impairments.

### HOW?

#### HOW CAN WE CHANGE IT?

- Uses a combination of specific treatment-direction tests and clinical reasoning strategies based on the findings from the WHAT & WHY, to develop an optimal intervention approach. Includes specific manual therapy, MWM's, neurodynamic techniques and key load management and exercise therapy strategies.

**Learning Objectives:** This practical workshop will provide skills related to

- Diagnostic, pain provocation tests for intra & extra-articular sources of nociception
- Assessment of bony morphology, joint stability, neurodynamics and relevant impairments
- Assessment of posture & key movement patterns for specific pain & load intolerance presentations
- Treatment direction tests (passive & active) & clinical reasoning strategies to determine best approach for reducing pain & improving load tolerance for the patient's specific presentation
- Manual therapy - specific techniques for range gaining and improving painfree ROM
- Load management advice & key exercise strategies for specific presentations

## LATERAL HIP & BUTTOCK PAIN

### CONTEMPORARY DIAGNOSTIC & MANAGEMENT STRATEGIES

Do you have a list of possible diagnoses that jump to mind when someone presents with lateral hip or buttock pain? Do you consider posterior joint stability, extra-articular impingements of the lesser or greater trochanter or peripheral nerve entrapments?

What is your strategy for working through the differential diagnoses and which subjective and objective markers determine your pathway towards each particular diagnosis?

Once you have determined the most likely diagnosis, are you also able to identify and develop a plan to address the most potent drivers for each individual's presentation?

Would you like to Fast Track your lateral hip and buttock Rehab?

Lateral hip and particularly buttock pain can often present a diagnostic dilemma. The lumbar spine and sacroiliac joints may refer into these regions; intra-articular hip pathologies may be accompanied by lateral hip &/or buttock pain; local soft tissues & neural structures may be primary sources of nociception. The first step is determining the most likely contributors to the patient's pain presentation. Developing an optimal management program with positive effects past the short term, will also require an evaluation of physical & psychological drivers. Intrinsic & extrinsic factors should be considered within the overall context of workload. While non-modifiable factors (e.g. bony morphology) are by nature unable to be modified, awareness of these factors can be integral to providing advice and interventions (active or passive) that 'do no harm' and development of strategies that allow maximal function with minimisation of adverse effects.

### Online Learning Component (4-6 hours)

#### Understanding definitions, pathology & mechanisms

Learning Objectives: The online component aims to

- Clarify definitions and diagnoses of lateral hip and buttock pain
- Explore factors which may influence loads and integrity of the posterior capsuloligamentous structures.
- Explore factors which may influence extra-articular loads in the lateral hip and buttock region – a. morphological variants (e.g. bony structure, soft tissue - neural relationships), b. adverse soft tissue loading associated with kinematics and neuromotor function (focus on hip abductors and short external rotators).
- Provide an overview of key load management and therapeutic exercise strategies for lateral hip and buttock pain, particular to the patient presentation and associated difficulties with mechanical load transfer.
- Provide an update on scientific evidence for underlying diagnostic and management approaches

## LATERAL HIP & BUTTOCK PAIN

### Practical Workshop (1 Day)

The practical workshop will guide participants through diagnostic tests and management strategies for lateral hip and buttock pain. There is now high-quality evidence for assessment and management of gluteal tendinopathy from the 'LEAP' lateral hip pain randomised clinical trial, of which Alison was a key investigator. Participants will receive first-hand instruction on techniques, advice regarding how best to apply this approach in clinical practice and valuable troubleshooting for slow or non-responders. The workshop will then delve into the other lesser-known problems associated with buttock pain that may present diagnostic and management challenges – posterior joint instability, bony impingements, peripheral nerve entrapments and musculotendinous overload, particularly of the proximal hamstring tendon and deep hip external rotators. Understanding the impact of bony morphology, soft tissue interfaces and postural and movement patterns is critical to optimal management of these conditions.

#### **Learning Objectives: This practical workshop will teach skills that allow participants to**

- Perform pain provocation tests for gluteal tendinopathy & associated soft tissue pathologies, and reason through the differential diagnosis for lateral hip pain
- Provide evidence-based load management and exercise strategies for lateral hip pain
- Assess and develop management strategies for posterior hip joint instability
- Recognise occurrence of and potential drivers for extra-articular impingements such as ischiofemoral and greater trochanteric impingement
- Develop management strategies for these extra-articular bony impingements
- Differentially diagnose ischial pain, including diagnostic tests for proximal hamstring tendinopathy
- Apply neurodynamic assessment and mobilisation techniques relevant to the lateral hip and buttock, and consider the impact of soft tissue interfaces
- Recognise the important anatomical relationships and functional roles of the deep external rotators