MDT World Press

The McKenzie Institute® International
2016 Vol. 5, No. 1

CASE REVIEW: A CLINICIAN'S PERSPECTIVE

Management of a Hip Derangement presenting with a positive Flexion Adduction, Internal Rotation (FADIR) Impingement Test

Andrei Altavas, PT, Cert. MDT

Hip joint pain is a common symptom that frequently causes patients to seek consultation in physical therapy. A variety of diagnostic labels for hip joint pain have been used by primary care physicians, such as osteoarthritis, trochanteric bursitis, labral tear, hip strain and hip pain. The Orthopedic Section of the American Physical Therapy Association established Nonarthritic Hip Joint Pain Clinical Practice Guidelines (CPG) linked to the International Classification of Functioning, Disability and Health. The purpose of these clinical guidelines is to describe evidence-based physical therapy practice, including diagnosis, prognosis, intervention, and assessment of outcome, for musculoskeletal disorders commonly managed by orthopedic physical therapists. Diagnoses of nonarthritic hip joint conditions are made by clinicians based on a combination of imaging and clinical findings, although there is no consensus on the diagnostic criteria to rule in or rule out a specific condition.

This is a case of a 56-year-old female patient referred by her primary care physician for R hip pain. The patient presented with a sudden onset of anterior hip and groin pain after a spinning class (cycling). She stated her symptoms had been present for three months and remained unchanged. The patient's hip pain was intermittent and was worsened when she crossed her leg, performed a squat, and when sleeping at night without a pillow between her legs. Her lumbar spine was unremarkable during assessment. Examination using repeated movements of the hip was worsened in flexion, internal rotation and adduction. This finding is described in the CPG as pain reproduced with the Flexion-Adduction-Internal Rotation (FADIR) Impingement Test which is suggested to be indicative of an intra-articular injury when correlated with imaging findings. The FADIR test is used to assess a painful impingement between the femoral neck and acetabulum in the anterior superior region. It has also been used to assess for specific pathology of the acetabular labrum, and diagnosis of femoroacetabular impingement. The FADIR test was studied for its diagnostic utility and has a specificity of 0.10 and sensitivity of 0.78.

A directional preference to hip extension was established on the first day, as this slightly reduced the patient's symptoms upon retesting her chief complaint. She was able to cross her leg with less pain but groin pain during squatting did not change. The patient returned for her second visit two days later reporting that crossing her leg was now pain free but she continued to have pain when sleeping at night. Likewise, squatting reproduced her groin pain. Repeated hip internal rotation was performed with the patient's leg on a 4-inch high foot stool. The patient's anterior hip and groin pain was reproduced but was decreased with repetition. Retesting her ability to squat was performed with less pain.

The patient was seen for her third visit a week later and reported that her symptoms were 90% better and her hip pain was abolished when she crossed her leg and during squatting. She also reported her pain at night was significantly reduced. Repeated movements of the hip were retested and were now full and pain free during flexion, adduction and internal rotation. However, a combined motion utilizing the FADIR Impingement Test and an inner quadrant scour test was painful and was made worse with repetition. Force alternatives were explored accounting for the patient's symptom response by adding more flexion to repeated internal rotation. The movement was performed with the leg on a chair. She was instructed to add overpressure to repeated internal rotation.

At the fourth visit, the patient reported full resolution of her symptoms during squatting and at night. She was hesitant to return to bicycle riding and spinning class due to fear that her hip pain would return. The FADIR Impingement Test and a hip scour test were performed and did not produce pain. The patient was instructed to continue her reductive exercises at home as needed.

This case highlights the importance of Mechanical Diagnosis and Therapy (MDT) in the management of nonarthritic hip joint pain. Therapeutic interventions such as joint mobilization, manipulation, neuromuscular re-education and stretching are recommended by the Clinical Practice Guidelines when patients demonstrate physical impairment measures consistent with a patho-anatomical diagnosis. Future recommendations using directional preference exercise and management utilizing the patient-response model are merited.

REFERENCES:

1. Enseki K, Harris-Hayes M, White D, Cibulka M, Woehrle J, Fagerson T, Clohisy J. Nonarthritic Hip Joint Pain: Clinical Practice Guidelines. *J Orthop Sports Phys Ther*. 2014; 44(6): A1-A32.
2. Beck M, Leunig M, Parvizi J, Boutier V, Wyss D, Ganz R. Anterior femoroacetabular impingement: part II. Midterm results of surgical treatment. *Clin Orthop Relat Res*. 2004: 67–73.
3. Narvani AA, Tsiridis E, Kendall S, Chaudhuri R, Thomas P. A preliminary report on prevalence of acetabular labrum tears in sports patients with groin pain. Knee Surg Sports Traumatol Arthrosc. 2003; 11: 403– 408.

THE McKENZIE INSTITUTE
LOWER EXTREMITIES ASSESSMENT

Date _____

Name Mrs. Hip Sex M (F)

Address _____

Telephone _____

Date of Birth _____ Age 56

Referral: *GP / Orth / Self / Other* Family MD

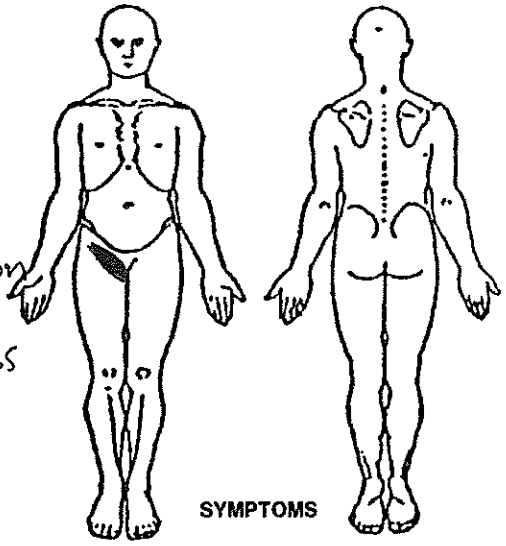
Work: Mechanical stresses Office administration 6-8 hours / day

Leisure: Mechanical stresses Cycling, spinning class

Functional disability from present episode _____

Functional disability score _____

VAS Score (0-10) 5/10



SYMPTOMS

HISTORY

Present symptoms R hip anterior / groin

Present since 3 months *Improving / (Unchanging) / Worsening*

Commenced as a result of cycling, spinning class *Or No Apparent Reason*

Symptoms at onset anterior hip / groin Paraesthesia: *Yes / (No)*

Spinal history back pain 1 yr. ago; resolved *Cough / Sneeze +ve / -ve*

Constant symptoms: _____ Intermittent Symptoms: hip / groin

Worse *bending sitting / rising / first few steps standing walking stairs (squatting) / kneeling* crouching

am / as the day progresses / (pm) night *when still / on the move* Sleeping: *prone / sup / side R / (L)*

Other uses a pillow between legs when sleeping; crossing leg during sitting

Better *bending sitting standing walking stairs squatting / kneeling*

am / as the day progresses / pm when still / on the move Sleeping: *prone / sup / side R / L*

other no pain with all other activities or positions except above.

Continued use makes the pain: *Better (Worse)* excessive *No Effect* Disturbed night *Yes / No*

Pain at rest *(Yes) / No* at night when not using a pillow between leg Site: *Back (Hip) / Knee / Ankle / Foot*

Other Questions: *Swelling* *Clicking / Locking* none *Giving Way / Falling* none

Previous episodes none

Previous treatments none

General health *(Good) / Fair / Poor* _____

Medications: *(Nil) / NSAIDS / Analg / Steroids / Anticoag / Other* _____

Imaging: *Yes / (No)* _____

Recent or major surgery: *Yes / (No)* _____ Night pain: *(Yes) / No* if leg not supported

Accidents: *Yes / (No)* _____ Unexplained weight loss: *Yes / No*

Summary *Acute / Sub-acute / Chronic* *Trauma / Insidious Onset*

Sites for physical examination *Back (Hip) / Knee / Ankle / Foot* R

Other: Sudden onset after spinning class

EXAMINATION

POSTURE

Sitting *Good / (Fair) / Poor* Correction of Posture: *Better / Worse / (No Effect) / NA* Standing: (Good) / *Fair / Poor*

Other observations: _____

NEUROLOGICAL: (NA) / **Motor / Sensory / Reflexes / Dural** _____

BASELINES (pain or functional activity): pain when crossing leg; squatting/crouching

EXTREMITIES (Hip) / *Knee / Ankle / Foot*

R

MOVEMENT LOSS	Maj	Mod	Min	Nil	Pain
Flexion			✓	·	✓
Extension				✓	
Dorsi Flexion					
Plantar Flexion					

	Maj	Mod	Min	Nil	Pain
(Adduction) / Inversion			·	✓	
(Abduction) / Eversion				✓	
Internal Rotation			✓		✓
External Rotation				✓	
Adduction + Flexion + IR		✓			✓

Passive Movement (+/- over pressure) (note symptoms and range):

	PDM	ERP
Flexion + OverP		✓
Flexion - Adduction - Internal Rotation + OverP		✓

Resisted Test Response (pain) Unremarkable

Other Tests FADIR impingement test painful

SPINE

Movement Loss - Unremarkable

Effect of repeated movements _____

Effect of static positioning _____

Spine testing *Not relevant / Relevant / Secondary problem* _____

Baseline Symptoms _____

Repeated Tests	Symptom Response		Mechanical Response	
(Active) (Passive) movement, resisted test, functional test	During – Produce, Abolish, Increase, Decrease, NE	After – Better, Worse, NB, NW, NE	Effect – ↑ or ↓ ROM, strength or key functional test	No Effect
Flexion	produced, increase	worse		
Adduction	✓	✓		
Internal Rotation	✓	✓		
Extension	NE	NE	↓ pain upon FADIR	retest +
Effect of static positioning				
Internal Rotation				

Day 2 → 2nd visit Force alternatives explored

PROVISIONAL CLASSIFICATION (Extremities) **Spine**

Dysfunction – Articular _____ Contractile _____

(Derangement) Articular _____ Postural _____

Other _____

PRINCIPLE OF MANAGEMENT

Education _____ Equipment Provided _____

Exercise and Dosage _____

Treatment Goals 1. return to cycling and spinning class

2. abolish pain at night, when crossing leg