



**Orthopaedic Division**  
CANADIAN PHYSIOTHERAPY ASSOCIATION

# Advanced Integrated Musculoskeletal Physiotherapy Program

## Level 1

### Framework for MSK Assessment

Andrea McAllister, BScPT, MCISc(CMP), FCAMPT



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## Why complete this module?

- The Purpose of this module is to provide an example demonstrating the flow of a standard peripheral joint assessment.
- The Learning Objectives:
  - Improve your ability to consider sources of pain based on distribution of symptoms and clinical history features
  - Understand a clinical reasoning framework designed to guide the construction of a MSK assessment
  - Begin to reflect on your own strategies of MSK assessment in clinical practice



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## The Clinical history:

- This individual is a 23-year-old, healthy, active person.
- Reporting a recent onset of increasing medial knee pain noticed mostly at the gym on leg day, when going upstairs or at the end of a golf swing toward the end of their round.
- Denies radiating pain, tingling or paraesthesia. Minimal pain at rest. No prior injury, and they do not recall a mechanism or moment of onset.



## The Clinical History:

- Your differential diagnosis should be starting here.
- What other information might help with formulating your hypotheses?
- In the narrative she has provided, have you made any assumptions that should be clarified?



## The Clinical History:

- This individual is a 23-year-old, **healthy, active** person.
- Reporting a **recent** onset of increasing medial knee **pain** noticed mostly at the gym on leg day, when going upstairs or at the end of a golf swing toward the end of their round
- Denies radiating pain, tingling or paraesthesia. **Minimal** pain at rest. No prior injury, and they do not **recall** a mechanism or moment of onset.



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## Pathofunction and Pathoanatomy

### Commonalities of functional impairments

- Weight bearing on one leg
- Weight bearing on the knee through range
- Medial rotation of the femur over a fixed tibia



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### Possible anatomical sources of pain

- Medial meniscus
- MCL
- Medial patellar retinaculum
- Pes anserine tendons
- Adductors
- Medial patellofemoral joint
- Neuromechanical sensitivity
- Spinal or visceral referral



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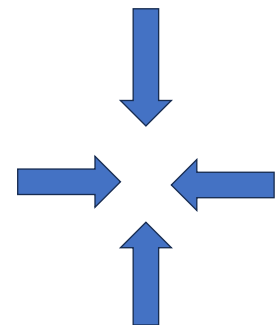
## Gathering information:

### Common tests at the knee:

- Joint line tenderness:(SN 0.83, SP 0.83)
- Thessaly at 20 degrees (SN 0.75, SP 0.87)
- McMurray's (SN 0.61, SP 0.84).

Konan et al. (2009) proved that McMurray's Test combined with positive joint line tenderness and positive mechanical history increase sensitivity and specificity to over 90%.

- ◇ Twisting injury
- ◇ Tearing sensation at the time of injury
- ◇ Delayed effusion (6-24 hours)
- ◇ History of 'catching' or 'locking'



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## Specific tests to rule in or out potential sources of pain:

STRUCTURE	TEST #1	TEST #2
Osteoarthritis (OA)		
Medial meniscus		
Medial passive stabilizers		
Pes anserine		
Patellofemoral Pain Syndrome (PFPS)		
Neuromechanosensitivity		
Other MSK (lumbar or hip referral)		
Visceral		



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## Specific tests to rule in or out potential sources of pain:

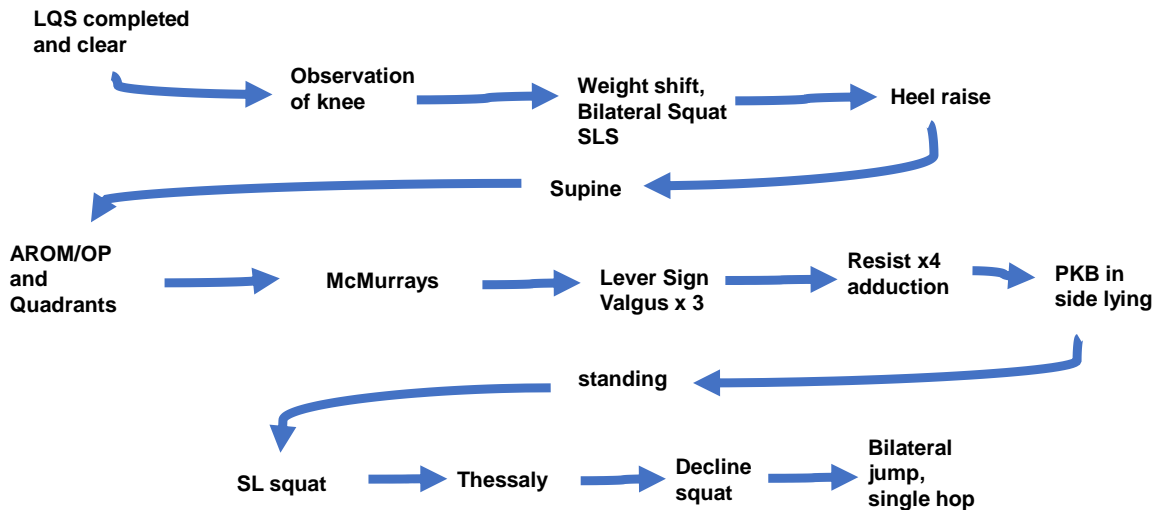
STRUCTURE	TEST #1	TEST #2
Osteoarthritis (OA)	History	ROM loss – capsular or non-capsular pattern
Medial meniscus	McMurray, medial joint line tenderness	Thessaly compared to SLS mini squat
Medial passive stabilizers	Valgus stress x 3 / Area of TOP/ secondary stabilizers	Symptom change in abduction (Selective tissue tension testing)
Pes anserine	Manual muscle test - resist in neutral and on length	Area of TOP, compare to valgus stress
Patellofemoral Pain Syndrome (PFPS)	Pain in stairs/squatting	SLS mini squat compared to Thessaly
Neuromechanosensitivity	Prone knee bend	Symptoms, ROM, change with cervical flexion
Other MSK (lumbar or hip referral)	Lower Quadrant Scan (LQS)	Other regional assessment
Visceral	Subjective questions	Exclude all MSK



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## Summary

- By completing a LQS, the assessment can focus on the area of concern.
- By considering the possible anatomical and functional sources of pain prior to an assessment, the flow can become more efficient.
- Using a framework of evidence informed tests can improve the flow and efficiency of MSK assessments.
- Mindful selection of tests allows for clustering of findings, and correlating these with the person's clinical history will help create a clear clinical impression and a person-centered care plan.



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## References

- Orphrey et al. The decline step-down test measuring the maximum pain-free flexion angle: A reliable and valid performance test in patients with patellofemoral pain. *Phys Ther Sport* 2019 Mar;36:43-50 <https://pubmed.ncbi.nlm.nih.gov/30641448/>
- Willy et al. Patellofemoral Pain. *J Orthop Sports Phys Ther.* 2019;49(9):CPG1-CPG95. doi:10.2519/jospt.2019.0302 <https://doi.org/10.2519/jospt.2019.0302>
- Decary et al. Diagnostic Validity of Combining History Elements and Physical Examination Tests for Traumatic and Degenerative Symptomatic Meniscal Tears. *PM R* 2018 May;10(5):472-482 <https://pubmed.ncbi.nlm.nih.gov/29111463/>
- Konan S, Rayan F, Haddad FS. Do physical diagnostic tests accurately detect meniscal tears? *Knee Surg Sports Traumatol Arthrosc.* 2009;17:806–811



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# Thank you.

- Please answer the 5 MCQs to complete this module.



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