10 MinuteMoment
MUSCULOSKELETAL EXAM FOR KNEE PAIN

SOCIETY OF BEDSIDE MEDICINE

Faculty development

The etiology of chronic knee pain strongly correlates with the history. Osteoarthritis is suspected in patients with chronic knee pain who are over age 50 with less than 30 minutes of morning stiffness. For patients with acute knee pain or pain after trauma, the physical exam can reliably help understand the diagnosis. Regardless of the situation, providers should examine both knees.

Atrophy of the thighs and calves is often present after a chronic ligamentous injury.

Knees should be assess for asymmetry which may indicate swelling.

It is helpful to have a structures approach to palpation of the knee:

- **Anterior** : distal tibia, tuberositas tibiae, patellar tendon, patella, quadriceps tendon
- **Medial** : pes anserine bursa, medial joint line*
- **Lateral** : fibula head, lateral joint line*, IT band
  * *tenderness over the medial or lateral joint line suggests meniscus injury*
- **Posterior** : popliteal masses

Is an effusion present? Look for loss of peri-patella grove, fluid wave, or ballotement
Is boney enlargement present? This increases the likelihood of osteoarthritis (LR = 11.8)
Is crepitus present? This also increases the likelihood of osteoarthritis (LR = 2.1)

Detecting an ACL Injury
- *A positive Lachman test significantly increases the likelihood of this (LR = 17)*
- *A positive Anterior Drawer test also increases the likelihood of this (LR = 11.5)*

Detecting a Meniscus Injury
- *The medial meniscus is roughly three times more susceptible to injury than the lateral meniscus*
- *A positive McMurray test increases the likelihood of detecting injury (LR = 4.5)*

Detecting a Medial Collateral Ligament Injury
- *Injury to the medial collateral ligament ocurres during blunt trauma to the outside of the knee*
- ***Absence** of laxity on valves testing **decreases** the likelihood of injury (LR = 0.2).*

This patient presents with **KNEE PAIN** *after a fall three days ago. Please examine them to decide what further management is needed.*

	PHYSICAL EXAM TECHNIQUE	Y / N	AREAS FOR FEEDBACK
INSPECTION	**Observe the patient** * Did the learner observe the patient's gait? * Did the learner assess the quadriceps and calf muscles for atrophy? * Did the learner expose both knees and thighs to look at them from all sides when the patient was standing and supine?		- Learner does not observe the patient's gait. - Learner does not expose both knees and thighs.
PALPATION	**Palpate the relevant structures of the knee** * Did the learner check for effusion (fluid wave and ballotment)? * Did the learner palpate the different structures of the knee for tenderness to palpation?		- Learner does not examine the unaffected knee for comparison. - Learner does not evaluate structures of the knee for pain. - Learner is not familiar with the location of the main structures of the knee. - Learner does not comment on abnormalities.
RANGE OF MOTION	**Examine the range of motion of the knee** * Did the learner test for active and passive range of motion? * Did the learner comment on the absence or presence of crepitus?		- Learner forgets to test passive range of motion
SPECIAL MANEUVERS	**Perform the special maneuvers** * Did the learner test for ACL tear (Lachman and Anterior drawer?) and PCL tear (Posterior drawer) and demonstrate correct technique? * Did the learner evaluate for MCL and LCL tear (virus and valves test)? * Did the learner evaluate for a Meniscus injury (McMurray test)? * Did the learner evaluate for patella-femoral syndrome (stand from a squat)?		- Learner interpreted the special maneuvers wrong - Learner did not examine the contralateral side - Learner did not save the presumed most painful maneuvers for last
	Did the learner have an organized and structured approach to the exam?		
	Did the learner maintain the patient's comfort and well being?		