

CLINICAL SKILLS: EXAMINATION OF THE KNEE

There are 6 main concepts that need to be remembered for ALL of the regional examination of the musculoskeletal system:

1. **Position** – always position your patient as you would like to examine them before you begin
 2. **Look** – inspect and observe the patient and around the patient's bedside
 3. **Feel** – for example, feeling a joint to see if it is hot or swollen
 4. **Move** – actively (the patient moves the joint) then passively (you do the movements for them)
 5. **Function** – can the patient move their joints in order to complete day to day tasks?
 6. **Special tests** – if applicable
- **Wash hands**
 - **Introduce yourself**
 - **Ask permission to examine the relevant part of the body**
 - **Expose the patient – ideally in underwear only, at least exposing the joint of interest and the joints above and below this**
 - **Reposition the patient – standing up at first**

Position:

- Standing up when you look. Then position lying down

Look:

- Front, sides and back
- Popliteal swelling
- Varus and valgus deformity
- Reposition patient to lying down on their back

Feel:

- Temperature
- Popliteal fossa for Baker's cyst
- Patellar tap
 - Push fluid from the anterior thigh into the patella
 - Then press down against the patella
 - If there is a fluid collection, the patella will feel bouncy against your fingers
- Sweep fingers firmly up the medial side of the patella and then rapidly down the lateral aspect of the patella - if there is a sudden filling over the medial aspect of the patella then this indicates a small effusion in the knee
- Flex knee to 90 degrees and palpate for tenderness:
 - Around the patella
 - Over the medial and lateral femoral condyles and around the tibial plateau

Move:

- Actively and passively:
 - Extension
 - Flexion
 - During passive movement, feel for crepitus by placing your hand over their knee as it moves

Function:

- Assess for an antalgic gait by asking the patient to walk

Special testing:

- Anterior drawer test
 - Tests the anterior cruciate ligament
 - Hold knee at 90 degrees
 - Look to see if there is a posterior sag or step-back of the tibia in this position - it may indicate posterior cruciate ligament damage
 - Put fingers in popliteal fossa and thumbs on the tibial tuberosity
 - Pull tibia firmly forward whilst stabilising the leg at the ankle with your other hand
 - Assess how far forward the tibia comes forward. Some anterior drawer may be normal, but if there is significant movement during this test then there may be anterior cruciate ligament pathology
- Collateral ligament test
 - Hold patient's leg up with one hand on their upper leg and one arm on their lower leg. Hold knee at a 15 degree angle
 - Attempt to bend the knee on a horizontal plane - ie apply lateral and then medial force to the knee joint using your hands positioned above and below the joint
 - Significant pain occurs in collateral ligament damage, and there is increased laxity of the joint with these movements if there is damage to the ligament
- McMurray's test
 - This test is very difficult to describe, and there are multiple different versions! We recommend asking an orthopaedic surgeon to teach you this one. It is often considered very painful, especially if there is pathology in the knee - for this reason it is rarely performed

To conclude the examination:

- Thank the patient
- Tell them they can get dressed now
- Offer to examine the joint above and the joint below
- Consider neurological examination of the limb examined

The complete examination of the musculoskeletal system includes:

- [Examination of the hand and wrist](#)
- [Examination of the elbow](#)
- [Examination of the shoulder](#)
- [Examination of the spine](#)
- [Examination of the hip](#)
- [Examination of the knee](#)
- [Examination of the ankle and foot](#)