# Rheumatology

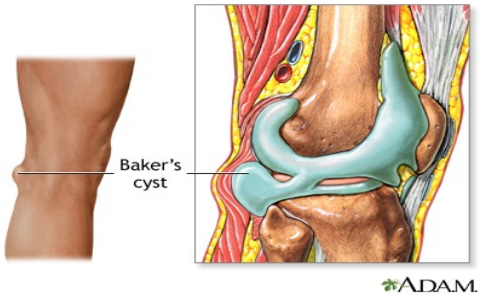
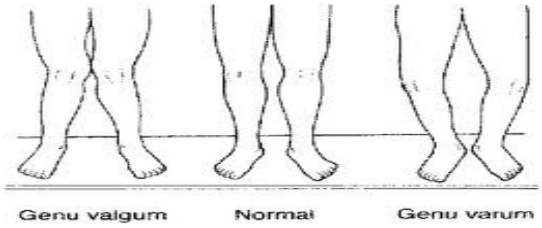
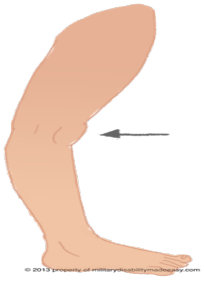
## *Knee Examination*

**Position**: lying down.

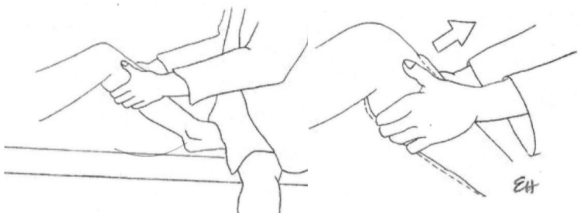
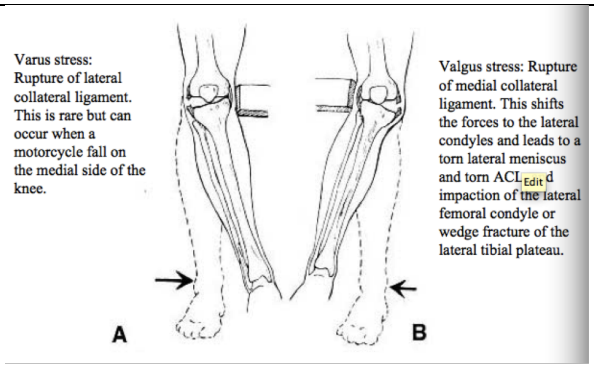
**Exposure**: both knees and thighs are fully exposed.

## Look

**Inspect for mobility aids & adaptations – walking stick / wheelchair & gait**

| | |
|---|---|
| **Skin:** | • Atrophy and tightness.<br>• Erythema and discoloration.<br>• Scars.<br>• Rashes. |
| **Muscle:** | Wasting ( Quadriceps wasting ) |
| **Joint:**<br>• Swelling:<br>Backer's cyst (a swelling behind the knee) in the popliteal fossa, while the knee in complete extension.( can do it when patient standing up) |  |
| • Deformity: | • Valgus: deviation away from the midline: RA.<br>• Varus: toward the midline: OA.<br>  |
| | Genu Recurvatum<br>• Recurvatum<br>  |
| • Bone: | • Subluxation. |

| Feel | |
|---|---|
| • Skin: | • Temperature. |
| • Joint:<br>Palpate the following with the knee flexed at 90°: | • **Patella** – palpate the borders for tenderness / effusion<br>• **Tibial tuberosity** – tenderness may suggest Osgood Schlatter disease<br>• **Head of the fibula** – irregularities / tenderness<br>• **Tibial & Femoral joint lines** – irregularities / tenderness<br>• **Collateral ligaments** – both the medial and lateral<br>• **Popliteal fossa** – feel for any obvious collection of fluid (e.g. a Baker's cyst) |
| **Effusion:**<br>https://www.youtube.com/watch?v=Ca7cL6ZPTH4<br>https://www.youtube.com/watch?v=WwricgKz5FA | |
| • Patellar tap test: Moderate to large effusion : | 1. Empty the suprapatellar pouch by sliding your left hand down the thigh to the patella.<br><br>2. Keep your left hand in position and use your right hand to press downwards on the patella with your fingertips.<br><br>3. If fluid is present you will feel a distinct tap as the patella bumps against the femur. |
| • Milking : Mild effusion : | 1- Gently stroke upwards along the medial aspect of the patella, pushing fluid towards the top and lateral aspects of the joint.<br><br>2- Gently push on the lateral aspect of the joint. If there's a small effusion, the fluid which was milked to the lateral aspect will be pushed back towards the medial area of the joint, causing the medial skin to bulge out slightly . |
| **Move** | |
| **Passive movement. :** This involves the patient relaxing and allowing you to move the joint freely | * Examination of crepitus - clicking of the joint with motion<br>* Knee flexion & extension<br>* Hyperextension – elevate both legs by the heels – note any hyperextension |
| **Active movement ( E & F), note any:**<br>This involves the patient performing the movement. | * Limitation.<br>* Instability. |

| Measure | |
|---|---|
| **Measure and compare quadriceps bulk ( 20 cm above tibial tuberosity )** | |
| **Range of movement.** | |
| **Strength of knee ligaments:** | |
| Anterior drawer sign<br>- tests the anterior cruciate ligament (ACL) | ○ Anterior drawer sign<br>  |
| Posterior drawer sign<br>- tests the posterior cruciate ligament | ○ Posterior anterior drawer sign<br>  |
| Valgus Stress<br>- tests the Medial collateral ligament<br><br>Varus Stress- tests the Lateral collateral ligament |  |

## Special Tests:

**Patellar apprehension test:**

- Done when recurrent dislocation or subluxation of patella is suspected.
- Push the patella firmly to the lateral side while slowly flexing the knee.

Look at the patient's face for any anxious expression that may suggest impending dislocation.

https://www.youtube.com/watch?v=xXmjYVDkmVg

**Apley's grinding test. :**with patient prone , apply axial load to knee while flexed to 90 degree and rotate foot

https://www.youtube.com/watch?v=w57I1cYXlCA

**Distraction test.**
https://www.youtube.com/watch?v=A_Lk20eiqxM

**McMurray's test.**
https://www.youtube.com/watch?v=Irg3Cb4JaE8
https://www.youtube.com/watch?v=tzuEFk3CmAo

**To complet**

Neurovascular examination of both lower limbs
ankle & hip Examination of the joint above and below
Further imaging if indicated – X-ray / MRI

**videos :**

https://www.youtube.com/watch?v=fNUGyNYVhqE

https://www.youtube.com/watch?v=wOplC9qMfrU

https://www.youtube.com/watch?v=pT1ZHVbpsuw

https://www.youtube.com/watch?v=wlLfNls75RY