

## **Knee**

Examination may involve a complete assessment of 1 or more of the 4 quadrants of may be focused on a specific anatomic structure.

### **Anterior:**

- Quadriceps tendon and muscles
- Suprapatellar recess of knee joint
- Patella and prepatellar bursa
- Patellar tendon and tibial tubercle
- Superficial infrapatellar bursa
- Deep infrapatellar bursa
- Vastus medialis and medial retinaculum (also with medial region scan)
- Vastus lateralis and lateral retinaculum (also with lateral regional scan)
- Distal femoral cartilage (as indicated)

### **Notes:**

1. Examination for superficial bursa may require a standoff pad or heaping gel on the skin to minimize transducer pressure and the possibility of a false negative examination.
2. Dynamic examination for the quadriceps and patellar tendons may include transducer pressure, passive or active knee flexion, active quadriceps contraction, patellar glides or resisted knee extension. The maneuvers may assist in the identification of partial or full thickness tears.

### **Medial:**

- MCL/tibial collateral ligament
- Valgus stress testing (as indicated)
- Medial meniscus and tibiofemoral joint space
- Pes anserine tendons and bursa
- Medial patellar retinaculum and patellofemoral joint (also with anterior region scan)

### **Notes:**

1. The pes tendons may be identified at the posterior-posteromedial knee and traced distally to the pes.
2. Valgus stress testing is typically performed at 30 degrees of knee flexion.

**Lateral:**

- Iliotibial band
- Lateral meniscus and tibiofemoral joint space
- LCL/fibular collateral ligament
- Varus stress test (as indicated)
- Biceps femoris tendon and muscles
- Popliteus tendon and muscle
- Lateral patellar retinaculum and patellofemoral joint (also with anterior region scan)
- Proximal tibiofibular joint (as indicated)

**Notes:**

1. Varus stress testing is typically performed at 30 degrees of knee flexion.
2. Iliotibial band motion may be dynamically assessed during flexion-extension at the level of the lateral femoral epicondyle while visualizing the ITB in its short axis.

**Posterior:**

- Popliteal fossa
- Popliteal artery and vein
- Semimembranosus tendon and muscle
- Medial & lateral gastrocnemius muscles, tendons, and bursae
- Sciatic, tibial, and common fibular nerves
- Posterior horns of both menisci (as indicated) and tibiofemoral joint
- PCL (as indicated) (may be seen in sagittal oblique plane)

**Notes:**

1. A Baker's cyst is a specific type of popliteal cyst which represents distention of the medial gastrocnemius-semimembranosus bursa. A Baker's cyst should be diagnosed only when a communicative stalk with the posterior tibiofemoral joint is visualized extending between the medial gastrocnemius and semimembranosus.
2. The tibial vein is often compressed and therefore not visualized secondary to transducer pressure. To see the vein, which occasionally may be duplicated, light transducer pressure is required.
3. The tibial nerve, vein, and artery are visualized superficial to deep in the posterior-posterolateral portion of the popliteal fossa.