



### Medial Patello Femoral Ligament

Feature	Details
Origin	Medial femoral condyle, just distal to adductor tubercle
Insertion	Superomedial border of the patella
Course	Runs <b>obliquely</b> from femur to patella, deep to vastus medialis obliquus (VMO)
Length	~4-6 cm

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### MCL – Superficial and Deep Fibers

Component	Details
<b>Superficial MCL</b> Origin: Medial femoral epicondyle Insertion: ~5-7 cm below joint line on medial tibial shaft	Primary stabilizer against valgus stress
<b>Deep MCL (a.k.a. capsular ligament)</b> Origin/Insertion: From medial femoral condyle to tibial plateau and joint capsule Divisions: Menisfemoral and meniscotibial portions	Thickening of the joint capsule intimately associated with the medial meniscus

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### Posteromedial Knee

<b>Medial Head of Gastrocnemius</b>	Posterior medial femoral condyle	May be confused with semimembranosus in imaging
<b>Semimembranosus</b>	Posterior medial tibial condyle	

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### Posterolateral Knee



Muscle/Tendon	Insertion Site
Biceps Femoris	Fibular head (lateral side)
Iliotibial Band (ITB)	Gerdy's tubercle on lateral tibia
Popliteus	Posterior tibia above soleal line
Gastrocnemius (medial & lateral heads)	Posterior femoral condyles to femoral condyles



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### Lateral Knee - LCL

Feature	Details
Origin	Lateral femoral epicondyle (just posterior to popliteus origin)
Insertion	Fibular head (anterior aspect)
Course	Runs cord-like and extracapsular, superficial to popliteus



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### Knee – Long Axis

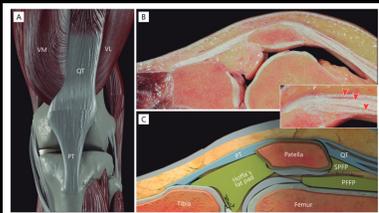


Figure 10-3. Cadaveric dissection, anatomical model and cadaveric sagittal section, showing the various components. A) Anatomical model in anterior view. B) Cadaveric section in the sagittal plane. C) Anatomical model of the same section. The panel shows an enlarged detail with the three components of the quadriceps tendon (top arrowheads). M: vastus medialis; VL: vastus lateralis; QT: quadriceps tendon; PF: patellar tendon; SPFP: suprapatellar fat pad; PFPF: proferior fat pad.



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### Anterior Knee Bursae



Bursa	Location	Clinical Relevance
Prepatellar Bursa	Between skin and patella	"Housemaid's knee" – direct trauma or repetitive kneeling
Subcutaneous Infrapatellar Bursa	Between skin and tibial tuberosity	"Clergyman's knee" – pressure from kneeling
Deep Infrapatellar Bursa	Between patellar tendon and tibial tuberosity	Inflamed knee condition



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### Anterior

- Distal quadriceps muscles
- Quadriceps tendon
- Suprapatellar recess of knee joint
- Patella and prepatellar bursa
- Patellar tendon and tibial tubercle
- Hoffa's fat pad
- Superficial infrapatellar bursa
- Deep infrapatellar bursa
- Vastus medialis and medial retinaculum including the medial patellofemoral ligament and dynamic assessment of stability
- Vastus lateralis and lateral retinaculum
- Trochlear cartilage



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### Live Scan - Anterior



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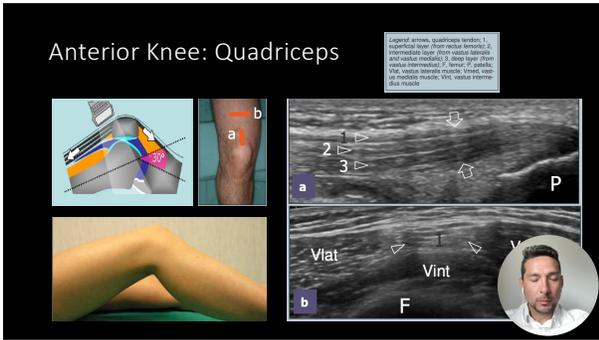
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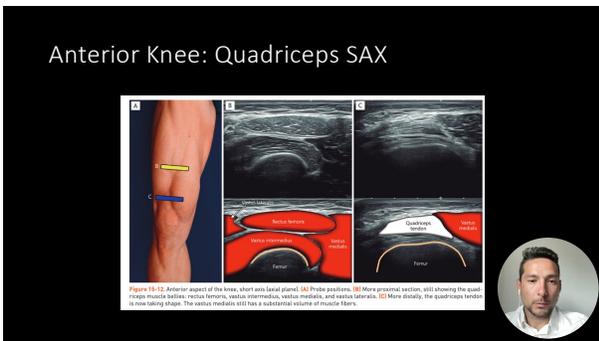
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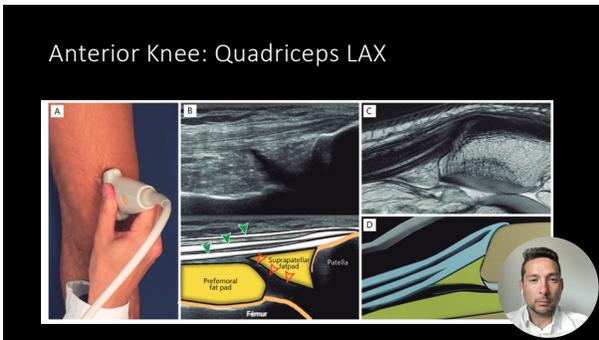
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### Femoral Trochlea

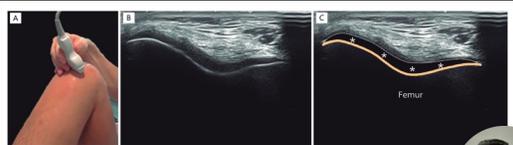


Figure 15-14. Anterior aspect of the knee, at the level of the femoral trochlea, for imaging the hyaline cartilage (asterisks). (A) probe position. (B) Ultrasound image in the axial plane. (C) The same image with structures highlighted.

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### Patellar Tendon

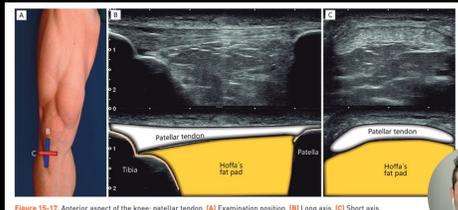


Figure 16-17. Anterior aspect of the knee: patellar tendon. (A) Examination position. (B) Long axis. (C) Short axis.

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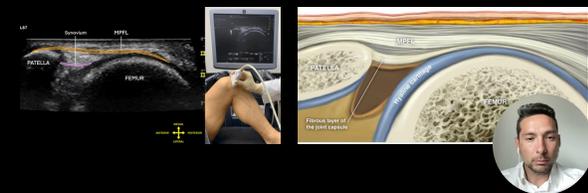
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### Medial Patellofemoral Ligament (MPFL)



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## Medial

- Medial collateral ligament (superficial and deep portions) with valgus stress testing
- Medial meniscus
- Tibiofemoral joint space
- Pes anserine tendons and bursa
- Medial patellofemoral ligament
- Medial patellofemoral joint



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## Live Scan - Medial



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## Medial Collateral Ligament - MCL

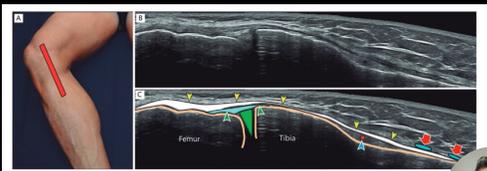


Figure 15-20. Medial aspect of the knee. (A) Path of the probe. (B) Panoramic reconstruction in the long axis, showing the main structures included in the examination. (C) The same image with important structures highlighted: superficial component of the medial ligament (yellow arrowheads), deep component of the medial collateral ligament (green arrowheads), pes anserinus tendons (red arrowheads), inferomedial genicular vessels (blue arrowhead), medial meniscus (colored in green).



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### Deep portion of MCL

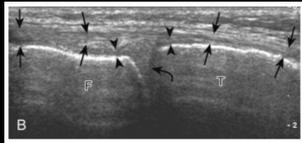


FIGURE 7.8 Medial Knee Evaluation: Coronal Plane. A, Coronal imaging at the medial joint line shows (B) the superficial (arrows) and deep (arrowheads) layers of the medial collateral ligament (black arrow, body of medial meniscus). F, Femur; T, tibia.



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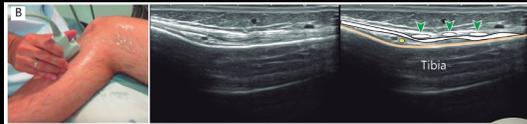
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### Pes Anserine



Sartorius  
Gracilis  
Semitendinosus



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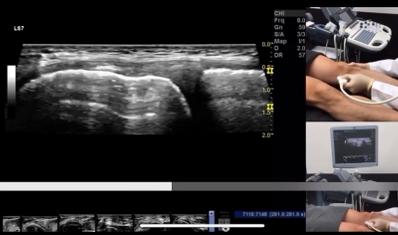
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### Superficial Fibers - MCL 0 deg



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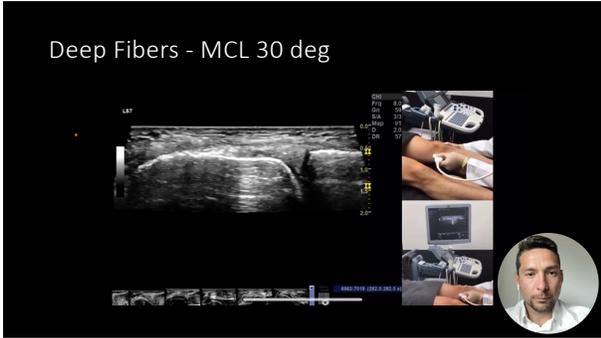
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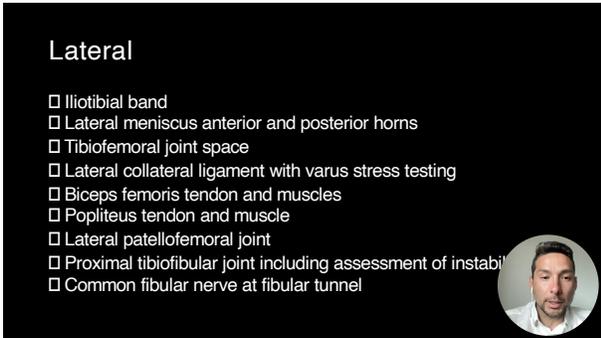
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### Lateral View

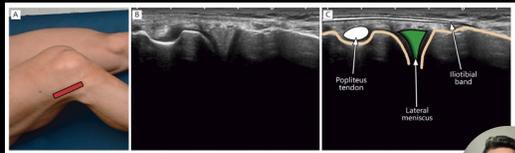


Figure 15-23. Lateral aspect in the long axis, to expose the joint line and the small fossa or groove for the popliteus tendon present within it. (A) Probe position. (B) Ultrasound image. (C) With structures highlighted.



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### Lateral Knee Assessment



**BONY LANDMARKS AND RELATED STRUCTURES**  
1: Gerdy's tubercle  
2: Femoral condyle  
3: Fibular head  
ITB: Iliotibial band  
LCL: Lateral collateral ligament



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### IT Band

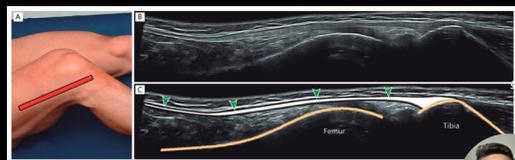


Figure 15-24. Lateral aspect of the knee. (A) Movement of the probe. (B) Panoramic reconstruction in the long axis. (C) Ultrasound image with important structures highlighted, showing the iliotibial band (green arrowheads) up to its tibial insertion on Gerdy's tubercle.



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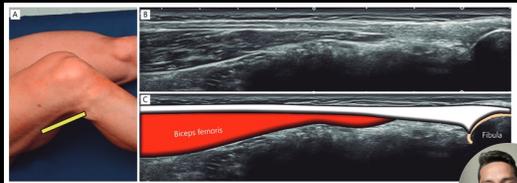
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### Biceps Femoris



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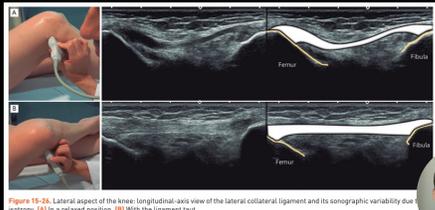
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### Lateral Collateral Ligament - LCL



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### Posterior

- Popliteal artery and vein
- Semimembranosus, semitendinosus, and biceps femoris (long and short heads) muscles and tendons
- Medial & lateral gastrocnemius muscles and tendons
- Evaluation for Baker's cyst at interval between semimembranosus and medial gastrocnemius
- Sciatic, tibial, and common fibular nerves
- Posterior horns of medial and lateral menisci
- Posterior tibiofemoral joint
- Posterior cruciate ligament
- Popliteus muscle

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# Live Scan - Posteromedial



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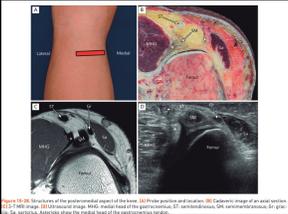
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# Posteromedial - SAX



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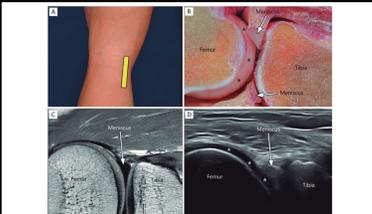
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# Posteromedial - LAX



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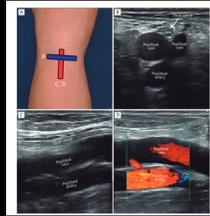
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Posterior Knee – Arteries & Nerves



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Live Scan - Posterolateral



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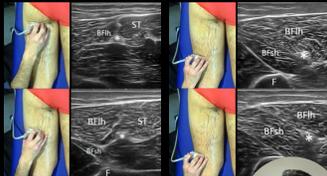
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Distal Lateral Hamstrings – SAX

- Biceps femoris long head (BF<sub>lh</sub>) → main bulk laterally
- Biceps femoris short head (BF<sub>sh</sub>) deeper, joins distally
- Semitendinosus (ST) visible more medially in upper scans
- Fibula (F) = key distal bony landmark
- Sciatic nerve (\*) remains a reference structure proximally



Series of short-axis ultrasound scans showing different views of the lateral part (lateral arm) of the hamstring. As the probe is moved distally along the sciatic region of the short head of the biceps femoris muscle, call the area "upper" (left of the figure) and call probe position "BF<sub>lh</sub> long head of the biceps femoris, ST semitendinosus muscle, \* sciatic nerve."



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### Posterolateral – LAX - Meniscus

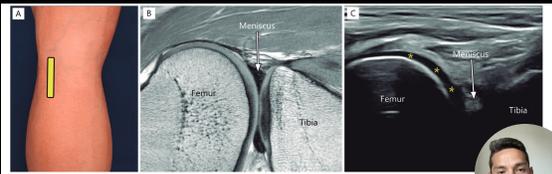


Figure 15-33. Comparative images of posterolateral structures of the knee in sagittal section. (A) Probe position. (B) M-mode ultrasound image. The hyaline cartilage of the condyle can be seen (asterisks).

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### Sciatic into Common peroneal nerve

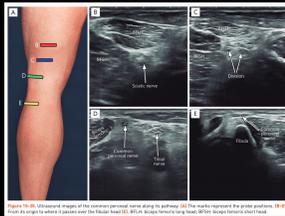


Figure 15-34. Ultrasound images of the common peroneal nerve. (A) Probe position. (B) M-mode ultrasound image showing the sciatic nerve. (C) B-mode ultrasound image showing the sciatic nerve. (D) B-mode ultrasound image showing the common peroneal nerve. (E) B-mode ultrasound image showing the common peroneal nerve.

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### Posterolateral – Lateral Gastroch

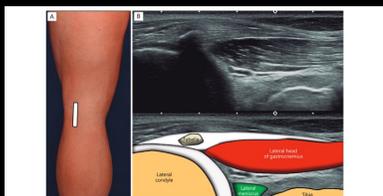


Figure 15-35. Origin of the lateral head of the gastrocnemius. (A) Probe position. (B) Ultrasound image of a sagittal section. The hyaline cartilage of the condyle can be seen in the body of the tendon.

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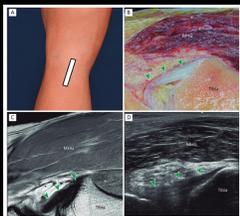
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### Posterior Cruciate Ligament



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Thank you!!!!



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