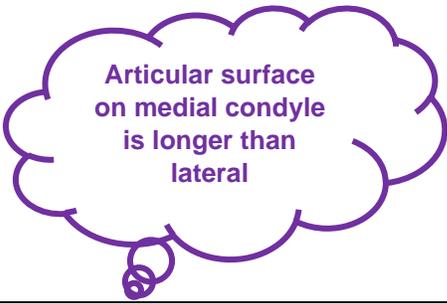


<b>From where</b>	<b>Knee joint</b>
<b>Type</b>	synovial joint; modified hinge.
<b>Articular surface</b>	<p>1- Lower surfaces of both femoral condyles ( medial + lateral )</p> <p>2- Superior surfaces of both tibial condyles (Plateau) ( medial + lateral )</p> <p>3- Posterior surface of the patella. (patella connect with femur only)</p> 
<b>Complex</b>	<p>a- Femoropatellar articulation</p> <p>b- Femorotibial articulation</p>
<b>Capsule of knee joint</b>	<p>is relatively thin</p> <ol style="list-style-type: none"> <li>1- Attachment to the femur: to articular margin of the medial condyle. - Laterally, articular margin to lateral condyle outside origin of popliteus muscle (popliteus is intracapsular extrasynovial)</li> <li>2- Attachment to the tibia: to articular margins of both condyles.</li> <li>3- Anteriorly, margins of patella.</li> </ol> <p>N.B; the capsule may be <b>absent</b> anteriorly and <b>replaced</b> by quadriceps tendon and ligamentum patellae.</p>
<b>Synovial membrane</b>	<p>-It lines the capsule and nonarticular structures</p> <ol style="list-style-type: none"> <li>1- <b>Anteriorly</b>, extends upward above the patella forming <b>suprapatellar bursa</b>.</li> <li>2- <b>Below the patella</b>, it forms <b>infrapatellar fold</b>.</li> <li>3- <b>Laterally</b>, it forms a synovial sheath around tendon of popliteus.</li> </ol>
<b>Bursa of knee joint</b>	<p>♣ Bursa On the medial aspect of knee joint:</p> <ol style="list-style-type: none"> <li>1- A bursa between medial head of gastrocnemius and capsule.</li> <li>2- A bursa between tibial collateral ligament and tendons of (S.G.S).</li> <li>3- A bursa between Semimembranous and medial condyle of the tibia.</li> </ol> <p>♣ Bursa On the anterior aspect:</p> <ol style="list-style-type: none"> <li>1- Suprapatellar bursa: between lower part of anterior surface of femur and quadriceps tendon, continues with synovial membrane.</li> <li>2- Subcutaneous prepatellar bursa: between skin and lower part of the patella. <ul style="list-style-type: none"> <li>• Inflammation and enlargement of this bursa usually affects persons who kneel over the knees during work. This condition is known as <b>"house maid's knee"</b></li> </ul> </li> <li>3- Subcutaneous infrapatellar bursa: between skin and lower part of tibial tuberosity.</li> <li>4- Deep infrapatellar bursa: between upper end of tibia and ligamentum patellae.</li> </ol>

# Extracapsular Ligament of the knee joint

From where	Ligamentum patellae (anterior)	Medial collateral (tibial) ligament	Lateral collateral (fibular) ligament	Posterior oblique ligament	Arcuate popliteal ligament
Char	<p>1- It is a strong ligament.</p> <p>2- It extends from the apex of the patella to the upper part of the tibial tuberosity.</p> <p>3- The deep surface is separated from the upper end of tibia by the deep infrapatellar bursa.</p>	<p>1- extends from medial epicondyle of femur to medial condyle and upper part of medial surface of tibia.</p> <p>2- It is adherent to the capsule and medial meniscus.</p>	<p>1- extends from lateral epicondyle of femur to head of the fibula (styloid process).</p> <p>2- It is separated from the capsule and lateral meniscus by popliteus.</p>	<p>1- It is a reflection from the semimembranosus tendon extends upwards and laterally to the lateral condyle of the femur.</p>	<p>1- Arches over Popliteus tendon</p>

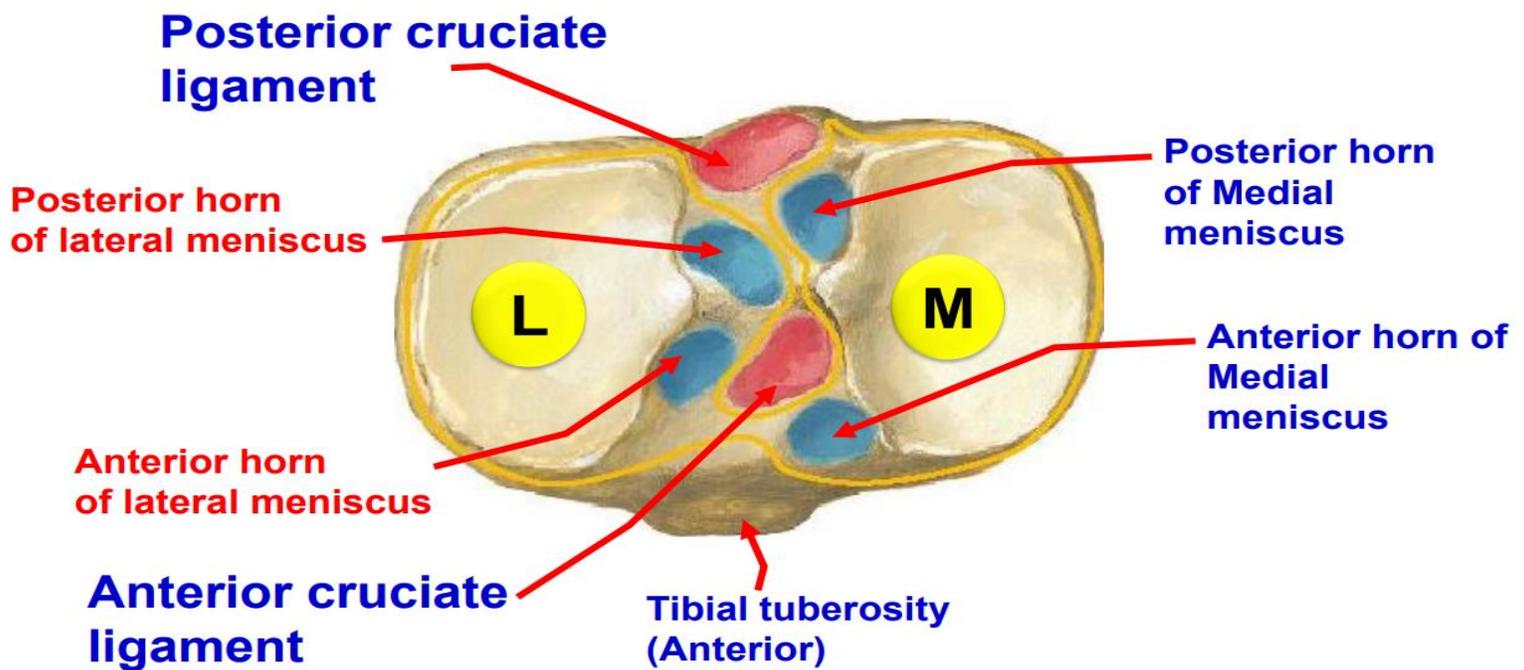
# Intracapsular Ligament of the knee joint



From where	Cruciate ligaments	Menisci (Semilunar cartilages, C-shaped)	Lateral meniscus	Transverse ligament
Char	<p>1- They are so called because they form an X-shaped figure.</p> <p>2- They are named anterior and posterior according to their attachment to the tibia.</p>	<p>- They <b>cover</b> the articular surfaces of both tibial condyles.</p> <p>- Their peripheral borders are <b>thick</b>, but they gradually become <b>thinner</b> towards their inner borders.</p> <p>- It is <b>not covered</b> by synovial membrane.</p> <p>- They are attached to the intercondylar area by anterior and posterior horns.</p> <p>- Medial meniscus is larger than lateral meniscus, SO The lateral horns inside the medial horns.</p>	<p>- more mobile because the outer border is separated from the capsule and fibular collateral ligament by the tendon of popliteus. So, it is less frequently to injury.</p> <p>- Injury of menisci and cruciate ligaments are common especially in football players.</p> <p>- It is caused by sudden rotatory movements of the partially flexed knee with the foot fixed on the ground.</p>	<p>It connects the anterior horns of both menisci</p>

# The types of Cruciate ligaments

From where	Anterior cruciate ligament	Posterior cruciate ligament (larger and stronger than the anterior)
Attachment to the tibia;	to the anterior intercondylar area.	to the posterior intercondylar area.
Attachment to the femur	to posterior part of the medial surface of the lateral condyle.	to the anterior part of the lateral surface of the medial condyle.
Course	It extends upwards, backwards and laterally.	It extends upwards, forwards and medially.
Function	1- Prevents posterior displacement of femur on tibia. 2- Prevents hyperextension of the knee. - Lax in flexion while tense in full extension	- It prevents anterior displacement of femur on tibia. - Tense in flexion while lax in extension



# Movement of the knee joint

<b>The movement</b>	<b>Flexion</b>	<b>Extension</b>	<b>Medial rotation</b>	<b>Lateral rotation</b>
<b>The muscle that mainly share to do this movement</b>	by 1- the hamstring muscles (semimembranosus, semitendinosus and biceps femoris). 2- Gastrocnemius, plantaris when the foot is fixed on ground	by 1- the quadriceps femoris (rectus femoris, vasti medialis, lateralis, and intermedius).	1- (SGS) Sartorius, gracillis & semitendinosus 2- semimembranosus	by 1- the biceps femoris only.