

# largest and most complicated joint

## Knee Joint

**Articulation**  
Rounded Condyles of femur and condyles of tibia  
Plateaus  
and menisci  
Anterior surface of femur and Patella

**Type**  
Synovial  
Modified Hinge  
"Modified" = Little Rotation enabled  
Patella and Femur joint is Plane Gliding

**Capsule**  
Attached to margins of articular surface  
Surrounds side and posterior aspect  
on front is absent  
Permitting synovial membrane to form SP bursa  
On sides of patella its strengthened by  
Vastus lateralis and Vastus medialis  
Behind strengthened by  
Oblique popliteal ligament

**Synovial Mem.**  
Lines Capsule  
in front forms suprapatellar bursa  
popliteal bursa  
at the back Semi-membranosus bursa  
It is reflected forward from posterior aspect  
Making ACL and PCL extrasynovial  
On Front its Reflected Backward  
Forming Infrapatellar fold and alar fold

**Bursae**  
Some Can Be continuous with Synovial Cavity  
Suprapatellar  
Superior to Patella  
Superior to Femoral distal end  
Attached from Superior End to  
Muscle Articularis genu  
Can be Part of V.intermedius  
Hold burasa and  
elevate it upon knee flexion  
most commonly involved in bursitic conditions  
In fetal life is separate  
after birth is extension of the synovial cavity  
Prepatellar  
Anterior to patella  
Housemaid knee  
Inflammation  
Due to prolonged pressing  
"subcutaneous" infrapatellar  
In front of tibial tuberosity  
Superficial to Patellar tendon  
Brusaitis in Prayers  
Deep  
Become Inflamed in patients with  
Osgood-Schlatter disease  
Upon treating surgically bursa removed  
Semi-membranosus  
may communicate with joint  
pes anserine  
goose's foot  
Subsartorial  
between the tibial collateral Ligament  
sartorius  
tendon insertions of  
gracilis  
semitendinosus  
Popliteal  
Communicates with Joint  
In association with Popliteal Tendon

**ACL**  
inside the knee joint capsule  
outside the synovial cavity  
anterior intercondylar area of the tibia  
Origin  
goes upward, backward, and laterally  
lateral femoral condyle  
medial surface of the  
insert into  
slightly longer than PCL  
tibia on the femur  
Prevents forward sliding of femur on the tibia  
or posterior displacement of femur on the tibia  
prevents hyperextension of joint  
taut during extension  
lax during flexion  
torn when the knee is hyperextended  
Weaker than PCL  
most commonly injured knee ligament  
commonly damaged by athletes  
football, hockey, skiing  
common injury in skating, soccer, basketball

**PCL**  
posterior intercondylar  
Origin  
passes upward, forward, and medially  
medial femoral condyle  
lateral surface of the  
insert into  
shorter, straighter, and stronger  
tibia on the femur  
Prevents backward sliding of femur on the tibia  
or anterior displacement of femur on the tibia  
taut during flexion  
lax during extension

**Menisci**  
C-shaped  
the medial collateral ligament  
interarticular area of the tibia  
attached to  
nearly circular  
acts as a cushion  
facilitates lubrication  
separated fibular collateral ligament by  
the tendon of the popliteal muscle  
outside the synovial cavity  
within the joint capsule

**Ligament**  
Transverse ligament  
Anterior  
Binds the anterior horns of Menisci  
Menisco-Meniscal  
Posterior  
Binds the posterior horns of Menisci  
broad band  
firmly attached to the medial meniscus  
anterior, posterior  
2 not separate parts  
injury to the ligament results  
also in damage to the medial meniscus  
Prevents abduction of the leg at the knee.

**Tibial Collateral**  
extension  
abduction  
thus limits  
taut on extension  
rounded cord

**Fibular Collateral**  
extension  
adduction  
limits  
taut on extension  
Stronger

**Patellar ligament**  
strong flattened fibrous band  
quadriceps femoris tendon  
continuation of  
from the apex of the patella to the tuberosity of the tibia

**Arcuate popliteal**  
from the head of the fibula  
arches superiorly and medially  
over the tendon of the popliteus  
fuses with the articular capsule

**Oblique popliteal**  
semimembranosus tendon  
expansion of the  
passes upward obliquely  
hyperextension  
lateral rotation during  
Resists

**Popliteus tendon**  
lateral meniscus  
and the capsule of the knee joint  
runs between  
deep to the fibular collateral ligament

### IntraCapsular

### ExtraCapsular

Nerve Supply  
Movements

ACL injury  
Arteries