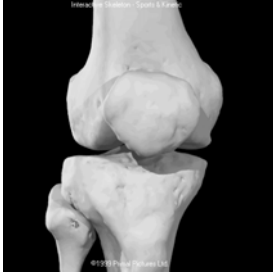


## The Knee:



### Anatomy & Injury Mechanisms

---

---

---

---

---

---

---

---

BONE

---

---

---

---

---

---

---

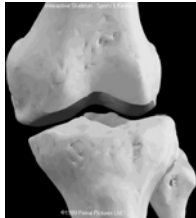
---

### The Knee

#### ■ Two Joints:

■ Tibiofemoral

■ Patellofemoral



---

---

---

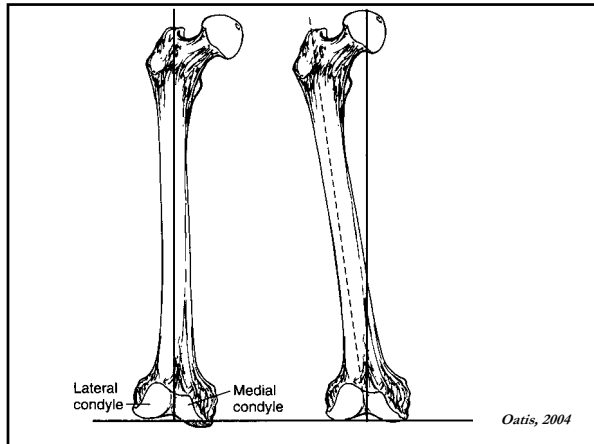
---

---

---

---

---




---

---

---

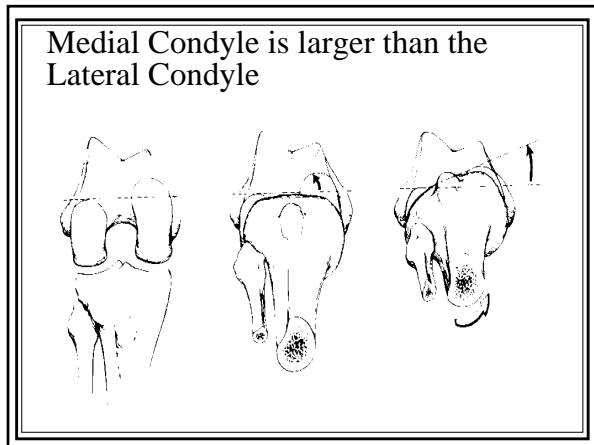
---

---

---

---

---




---

---

---

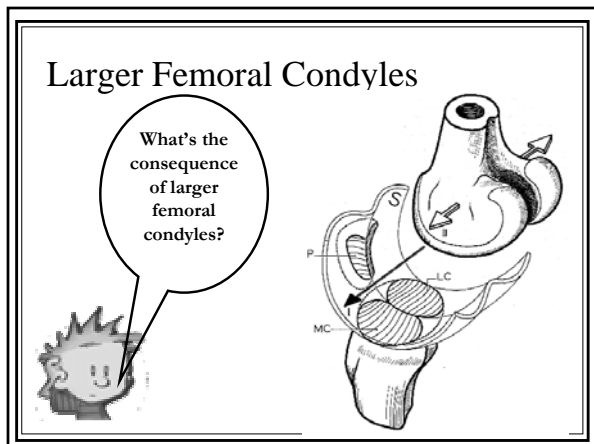
---

---

---

---

---




---

---

---

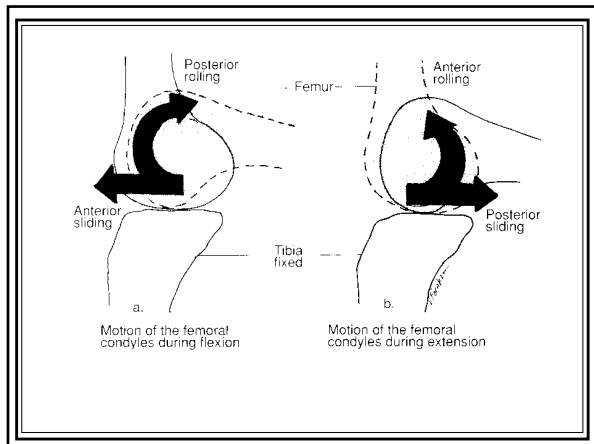
---

---

---

---

---




---

---

---

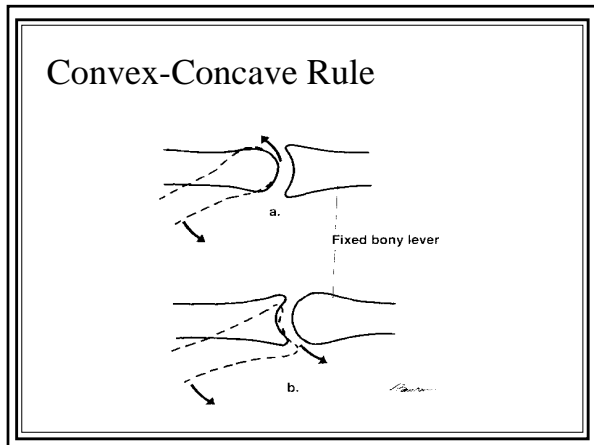
---

---

---

---

---




---

---

---

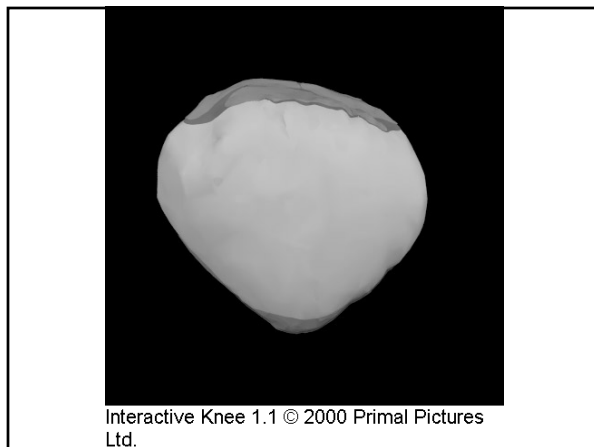
---

---

---

---

---




---

---

---

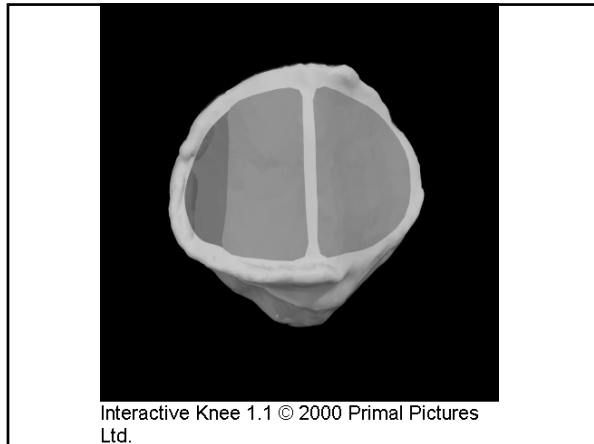
---

---

---

---

---



---

---

---

---

---

---

---

---

JOINT

---

---

---

---

---

---

---

---

The Menisci

---

---

---

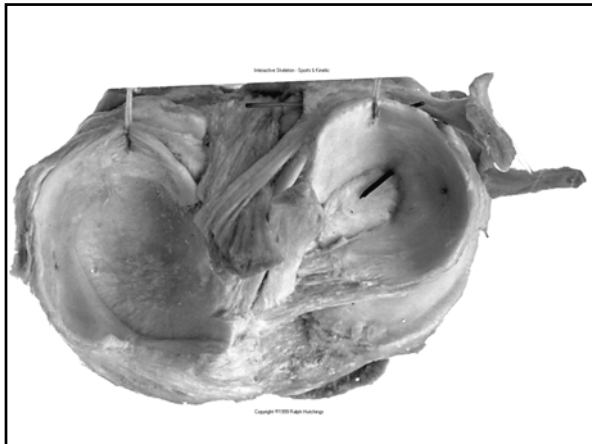
---

---

---

---

---




---

---

---

---

---

---

---

---

## The Menisci

- Tibiofemoral load transmission
- Shock absorption
- Lubrication
- Prevent synovial impingement
- Distribute synovial fluid
- Contribute to joint stability
- Assist in gliding motion

---

---

---

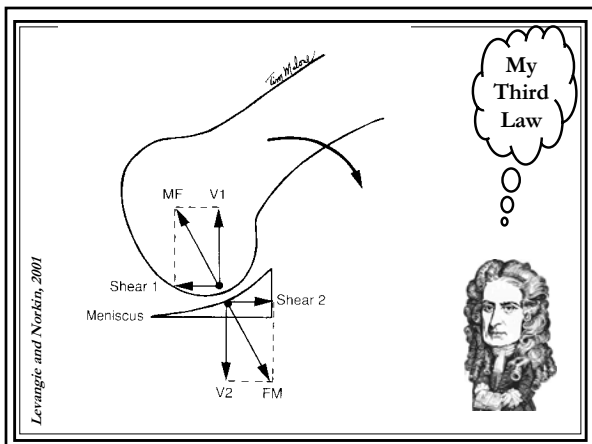
---

---

---

---

---




---

---

---

---

---

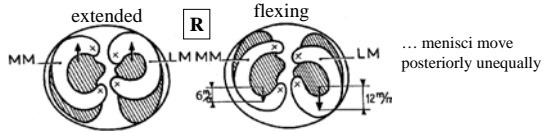
---

---

---

### Movements of menisci

- during flexion-  
move posteriorly
- during extension-  
move anteriorly



... the menisci follow, or stay with the, femoral condyles

---

---

---

---

---

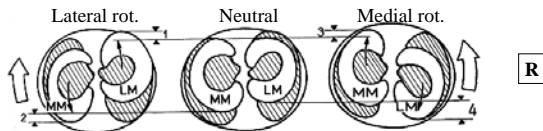
---

---

---

### Movements of menisci

- during lateral rotation of the tibia
  - the menisci follow the femoral condyles, e.g. they remain with the femoral condyles while the tibia rotates
- during medial rotation (compare to lateral rotation)



... the menisci follow, or stay with the, femoral condyles

---

---

---

---

---

---

---

---

*How would you palpate the menisci?*

---

---

---

---

---

---

---

---

Anterior  
Cruciate  
Ligament



---

---

---

---

---

---

---

---

Posterior  
Cruciate  
Ligament



---

---

---

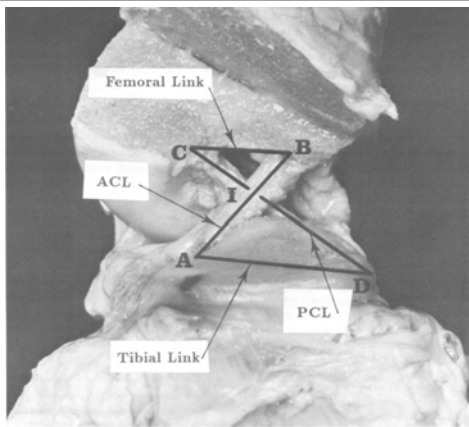
---

---

---

---

---



---

---

---

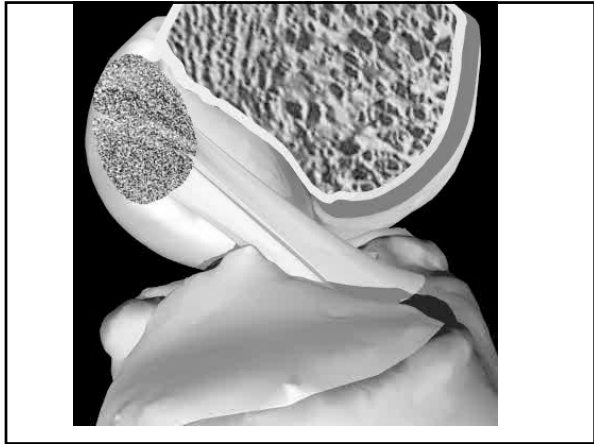
---

---

---

---

---



---

---

---

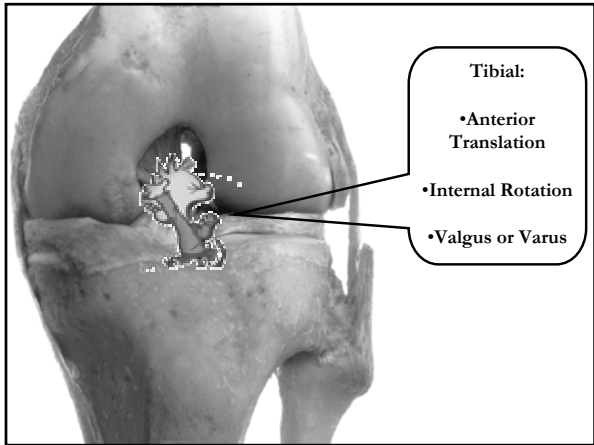
---

---

---

---

---



---

---

---

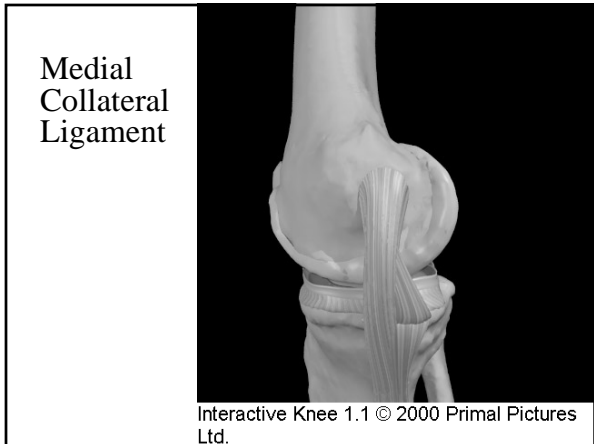
---

---

---

---

---



---

---

---

---

---

---

---

---



# Lateral Collateral Ligament



Interactive Knee 1.1 © 2000 Primal Pictures Ltd.

---

---

---

---

---

---

---

---

*Why do we have a patella?*



---

---

---

---

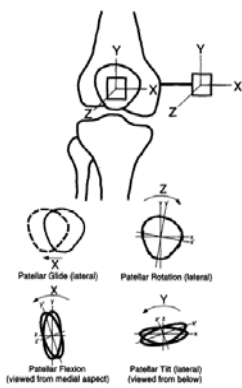
---

---

---

---

# Patellar Motions



---

---

---

---

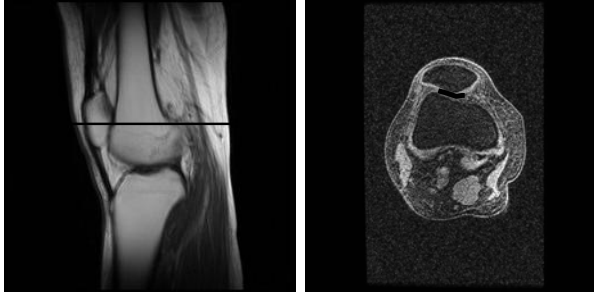
---

---

---

---

Trochlear Depth – Full Extension



---

---

---

---

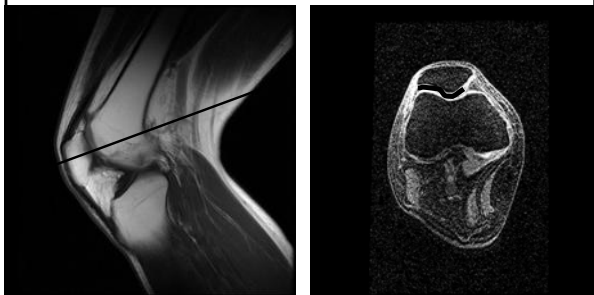
---

---

---

---

Trochlear Depth – 60° Flexion



---

---

---

---

---

---

---

---

MUSCLE / TENDON

---

---

---

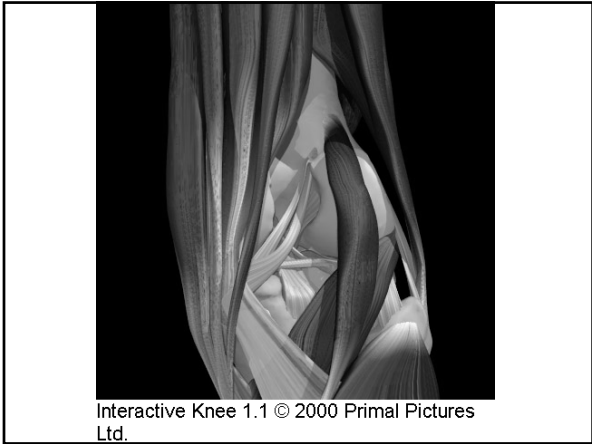
---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

---

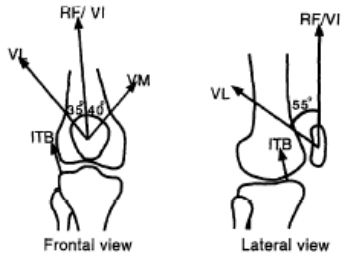
---

---

---

---

### The Effect of the Quads on the Patella



---

---

---

---

---

---

---

---

### BURSA

---

---

---

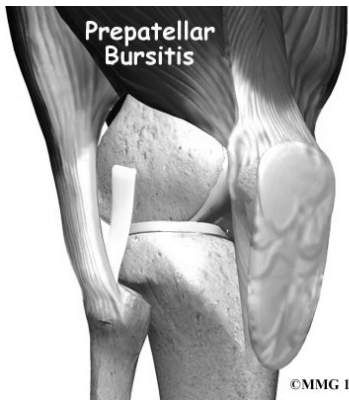
---

---

---

---

---



---

---

---

---

---

---

---

---

NERVE

---

---

---

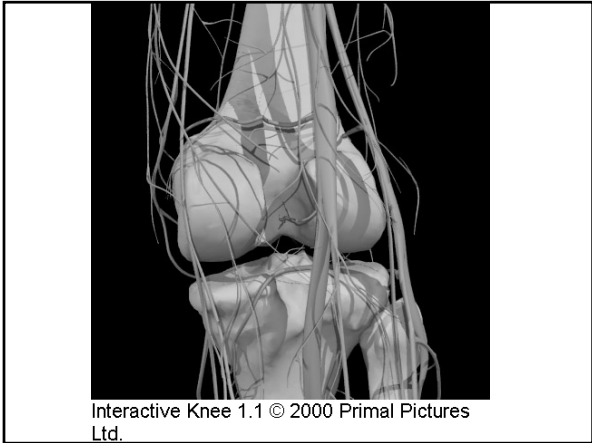
---

---

---

---

---



---

---

---

---

---

---

---

---

VASCULAR

---

---

---

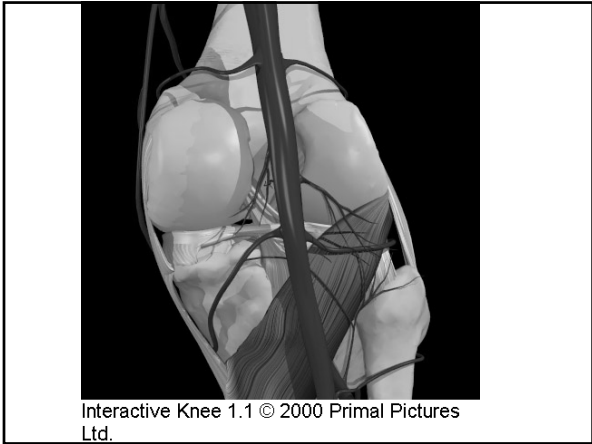
---

---

---

---

---



---

---

---

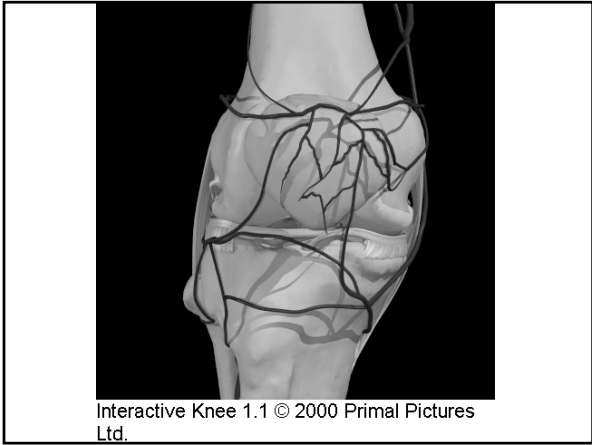
---

---

---

---

---



---

---

---

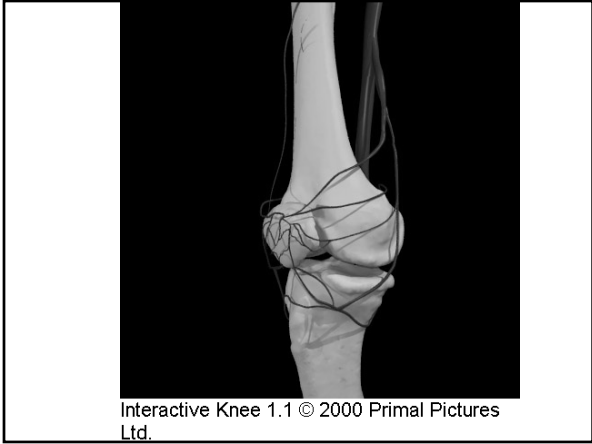
---

---

---

---

---



---

---

---

---

---

---

---

---

INJURIES

---

---

---

---

---

---

---

---

Bone

---

---

---

---

---

---

---

---



---

---

---

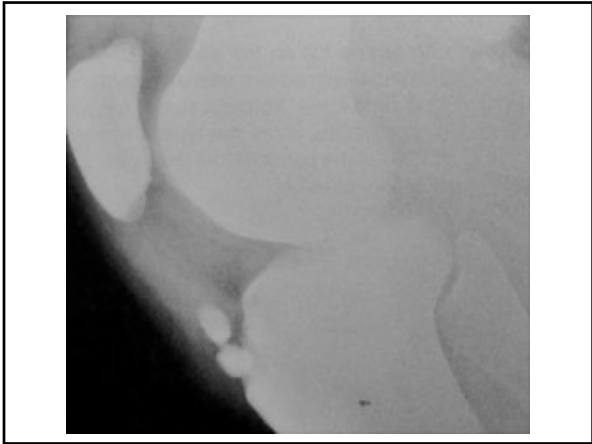
---

---

---

---

---



---

---

---

---

---

---

---

---

Joint

---

---

---

---

---

---

---

---



---

---

---

---

---

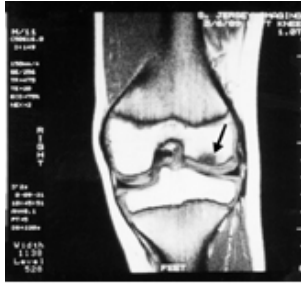
---

---

---



### Osteochondral Defects



© F.A. Davis www.fadavis.com

---

---

---

---

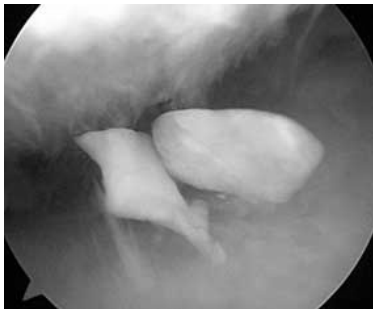
---

---

---

---

### Osteochondritis Dissecans



---

---

---

---

---

---

---

---

### Synovitis



---

---

---

---

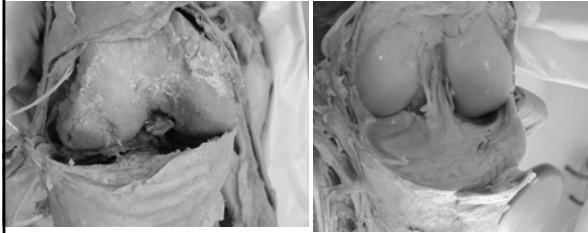
---

---

---

---

# Arthritis



---

---

---

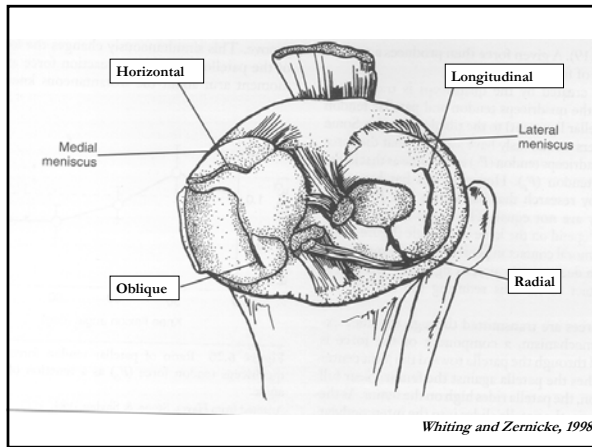
---

---

---

---

---



---

---

---

---

---

---

---

---



---

---

---

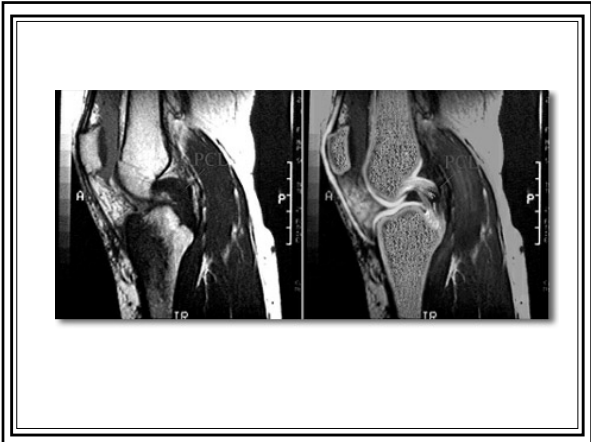
---

---

---

---

---




---

---

---

---

---

---

---

---

### Rotational Instabilities

- Relative motion of the tibia on the femur
- Multiple structures are involved
- Total may be greater than the sum of the parts

© F. A. Davis www.fadavis.com

---

---

---

---

---

---

---

---

### Bursa

---

---

---

---

---

---

---

---



---

---

---

---

---

---

---

---