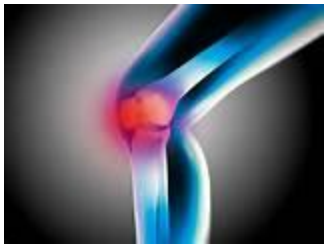
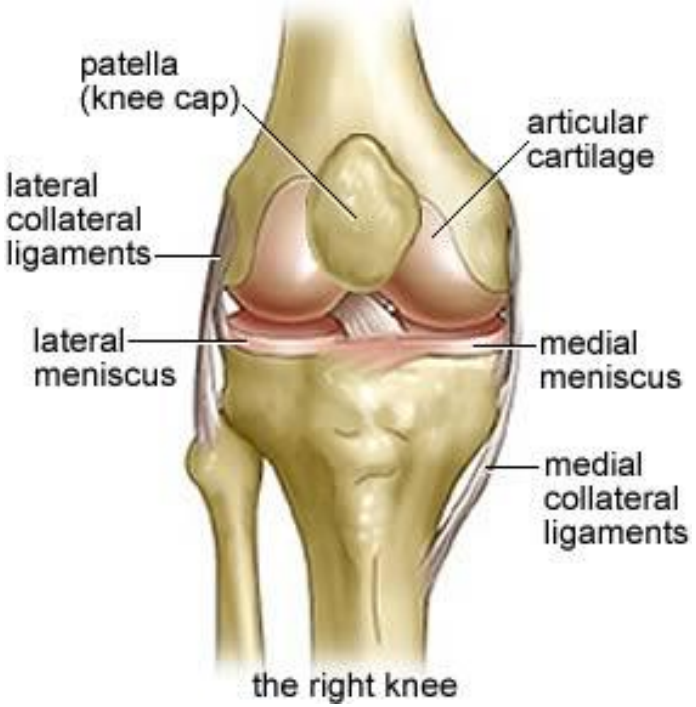
KNEE PAIN

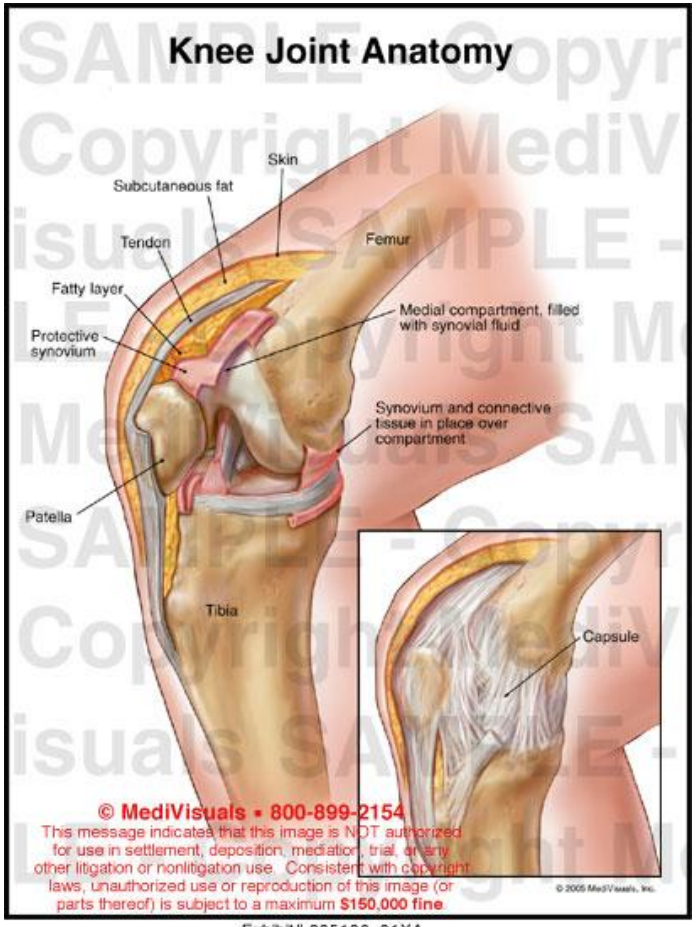
U Win Naing
Assistant Lecturer
Physical Medicine Department
University of Traditional Medicine,Mandalay

TERMS

- ဒူနာ
- Janu shula
- Knee Pain




patella
(knee cap)
articular
cartilage
lateral
collateral
ligaments
lateral
meniscus
medial
meniscus
medial
collateral
ligaments
the right knee



Exhibit# 205106_01XA


Patella (reflected)
Anterior cruciate ligament
Patellofemoral groove
Distal femoral condyle
Posterior cruciate ligament
Tibial collateral ligament
Lateral meniscus
Medial meniscus
Fibular collateral ligament
Tibial plateau
Tibia
Fibula


Patella (reflected)
Anterior cruciate ligament
Patellofemoral groove
Distal femoral condyle
Posterior cruciate ligament
Tibial collateral ligament
Lateral meniscus
Medial meniscus
Fibular collateral ligament
Tibial plateau
Fibula
Tibia


Knee Joint Anatomy
Femur (Thigh Bone)
Patella (Knee Cap)
Articular Cartilage
Meniscus
Tendon
Fibula
Tibia (Shin Bone)


Knee Joint Ligaments
Femur
Anterior Cruciate Ligament (ACL)
Medial Collateral Ligament (MCL)
Articular Cartilage
Meniscus
Lateral Collateral Ligament (LCL)
Posterior Cruciate Ligament (PCL)
Fibula
Tibia
Left Knee From Behind

CAUSES AND PATHOLOGY

- Old age
- Over weight
- Trauma : fracture and dislocation
- Rheumatoid arthritis
- Malignant
- Bone TB

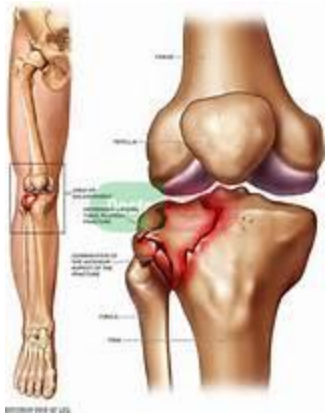
CAUSES AND PATHOLOGY

Over weight

CAUSES AND PATHOLOGY

Trauma

Fracture



Dislocation

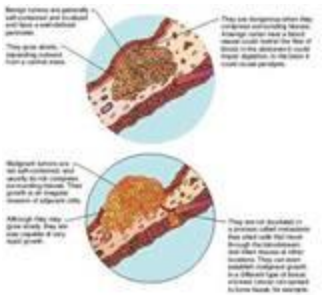
• FIGURE 46-2 Anterior Dislocation of the Knee
This rare injury poses a significant threat to blood vessels and nerves that traverse the knee. Immediate reduction is indicated.

CAUSES AND PATHOLOGY

Rheumatoid Arthritis

CAUSES AND PATHOLOGY

- Malignant



CAUSES AND PATHOLOGY

- Bone TB

SIGNS AND SYMPTOMS

- Pain and ache
- Swelling
- Stiffness
- Locking
- Giving way(instability)
- Deformity _ chronic(knock knee, bow leg)
- Limp

PHYSICAL EXAMINATION

(1) Look

Gait __ painful gait

Deformity __ Genu valgum

Genu varum

Swelling

Scars

(2) Feel

Warmth

Tenderness __ by palpation

Effusion __ large (as horseshoe)

moderate _ patellar tap

small _ massage test

The patellar tap

- With the knee extended, apply pressure with one hand to empty any fluid within the suprapatellar pouch into the retropatellar space. If there is sufficient fluid this will lift the patella off the underlying femoral condyle.

- With the fingers of the opposite hand, press down on the patella and fluctuation may be noticed. If this is repeated with a more brisk downward pressure on the patella, a tapping sensation may be felt as the patella hits the femur. If the effusion is very tense the tap is difficult to elicit.

The massage test Or The bulge or ripple test __ to elicit a small effusion

- With the knee straight and the quadriceps relaxed, stroke any fluid on the medial side of the joint up and across into the lateral aspect of the suprapatellar pouch.

- Then, without delay, firmly stroke down the lateral side of the knee in an attempt to push any fluid back onto the medial side of the knee. If fluid is present, a fluid impulse will be seen to cause a transient bulge on the anteromedial side of the knee.

PHYSICAL EXAMINATION

(3) Move

Active __ extension = 0°

flexion = 140°

Passive __ extension = 0°

flexion = 140°

LIGAMENT TESTING

Tests of stability

Collateral ligament

With the knee fully extended, abduction or adduction should not be possible. If either ligament is lax or ruptured, movement can occur. If the ligament is strained(partially torn) but intact, pain will be produced but the joint will not open.

- With the patient's knee fully extended, hold the ankle between your elbow and side. Use both hands to apply a valgus and then varus force to the knee.

- Use your thumbs to feel the joint line and assess the degree to which the joint space opens. Major opening of the joint indicates colleteral and cruciate injury.

- If the knee is stable, repeat the process with the knee flexed to 30° to assess minor colleteral laxity. In this position the cruciate ligaments are not taut.

Cruciate ligament

- Flex the patient's knee to 90° and maintain this position by sitting with your thigh trapping the patient's foot.

- Check that the hamstring muscles are relaxed and look for posterior sag (posterior subluxation of the tibia on the femur). This causes a false-positive anterior drawer sign which should not be interpreted as anterior collateral ligament laxity.

The anterior drawer sign

- With your hands behind the upper tibia and both thumbs over the tibial tuberosity, pull the tibia anteriorly. Significant movement(compare with the opposite knee) indicates that the anterior cruciate ligament is lax. Movement of >1.5 cm suggests anterior cruciate ligament rupture. There is often an associated medial ligament injury.

The posterior drawer sign

- Push backwards on the tibia. Posterior movement of the tibia suggests posterior cruciate ligament laxity.

PATELLA

The patellar apprehension test

- With the patient's knee fully extended, push the patella laterally and flex the knee slowly. If the patient actively resists flexion, this suggests previous patellar dislocation or instability.

Tests for meniscal tears

Meniscal tears in younger sporty patients usually result from twisting injury to the flexed weight-bearing leg. In middle-aged patients, degenerative horizontal cleavage of the menisci is common, with no history of trauma. Meniscal injuries commonly cause small effusions, especially on weight bearing or after exercise. Associated localised joint line tenderness is common.

Meniscal provocation test

- Ask the patient to lie face-up on the couch. Test the medial and lateral menisci in turn.

Medial meniscus

- Passively flex the knee to its full extent.
- Externally rotate the foot and abduct the upper leg at the hip, keeping the foot towards the midline(i.e. creating a varus stress at the knee).
- Extend the knee smoothly. In medial meniscus tears a click or clunk may be felt or heard, accompanied by discomfort.

Lateral meniscus

- Passively flex the knee to its extent.
- Internally rotate the foot and adduct the leg at the hip(i.e. creating a valgus stress at the knee).
- Extend the knee smoothly. In tears of the lateral meniscus, a click or clunk may be felt or heard, accompanied by discomfort.

Squat test

- Ask the patient to squat, keeping his feet and heels flat on the ground. If he cannot do this, there is incomplete knee flexion on the affected side. This may be caused by a tear of the posterior horn of the menisci.
- Test the extreme range of knee flexion with the patient face-down on the couch, which makes comparison with the contralateral side easy.

(4) Imaging

-X-ray

-Arthrography

-MRI

others _ aspiration

MANAGEMENT

(1) Medication

- To be pain relief
- TMF-6,17,23,24,25,27,28,35,69,70

(2) Panchakarma Therapy

- Infra-red Ray
- Patrapinda Sweda(Fomentation)
- Nadi Sweda
- Abhyanga
- Janu Vasti

(3) Massotherapy

- LL-10,11,12,13,14,15,16

(4) Upanaha Sweda

- TMF-29+TMF-43+TMF-47(1:2:2) with warm water or sesamon oil

(5) Do and Don't

- Do __ walking with stick
  __ exercise
  __ wear knee brace
- Don't __ long standing
  __ walking
  __ down and up stair
  __ Sitting with knee flexion

PROGNOSIS

- Chronic knee pain
- Deformity __ genu valgum and genu varum

REFERRAL CONDITIONS


Thank You For All