Hip dislocation

- Hip dislocations are uncommon as hip joint is very stable joint.
- Normal hip joint anatomy
  1. Deep acetabular socket
  2. Strong muscles all around
  3. Capsule and Various ligaments around
     - Anterior: Bigelow’s ligament/iliofemoral
     - Medial: Pubofemoral
     - Posterior: Ischiofemoral

Hence, degree of trauma must be severe to dislocate a hip joint. Seen in road traffic accidents and usually involves young individuals

Type of dislocation: Anatomic classification

1. Posterior: commonest, 90%
2. Anterior
3. Central

Posterior dislocation

Where the femoral head is dislocated posterior to the acetabulum
Mechanism of injury:

Person sitting in car with flexed and adducted thigh

Trauma to the front of the knee/patella

The force is transmitted upwards via shaft of femur

The femoral head is forced out of the acetabular socket posteriorly

While head is forced out of acetabulum, two mechanical complications may happen

1. While head is being forced out, it hits against the posterior wall of acetabulum which can lead to acetabular wall #
2. After the head reaches in the gluteal region, it may press upon the sciatic nerve leading to foot drop.

Clinical features:

- H/O RTA
- Pain and swelling around hip
- Unable to bear weight
- **Attitude of lower limb:**
  - Flexed
  - Adducted and Internally rotated @ hip
- If limb is in external rotation:
  - suspect associated fracture shaft of femur/# neck femur
- Palpable head of femur in gluteal region
- Narath sign positive
- Shortening of lower limb
- Look for features of sciatic nerve injury leading to foot drop
Investigations:

- Plain x-ray of pelvis with both hips: AP
- Lateral x-ray of affected hip
  1. Femoral head out of acetabular socket
  2. Lesser trochanter less prominent
  3. Shenton’s line broken

- CT scan if acetabular fracture or loose body in the joint

Treatment:

1. Closed reduction of dislocation must be done preferably under general anaesthesia, and at the earliest.
- Followed by lower limb immobilization in Thomas knee splint with below knee skin traction for three weeks
  - Alternatively, immobilization of lower limb with upper tibial skeletal traction for three weeks
- Later, partial followed by full weight bearing
2. Open reduction of dislocation, if closed fails

Complications:

Acute:
1. Injury to sciatic nerve, superior gluteal vessels
2. Associated acetabular fracture, femoral shaft #, Patella #
3. Knee ligament injury: due to direct posterior force over the knee

Chronic:
1. Avascular necrosis: It can lead to $2^\text{nd}$ osteoarthritis of the hip
2. Myositis ossificans
3. Recurrent dislocation: very rare

Methods of closed reduction (BAS)
1. Bigelows
2. Alli’s
3. Stimson’s

1. Sciatic nerve injury:
   - Usually neuropraxia/axonotmesis
   - Conservative treatment & recovers gradually
2. Associated # of acetabulum may create few issues
   - Unstable reduction of hip due to lack of support from posterior wall. This may need internal fixation of posterior wall for stable reduction
   - The fragments from the acetabular # can migrate into the joint and lead to non-concentric reduction of hip. This may require open reduction and removal of loose body
3. Avascular necrosis presents after 1-2 years
   - Can lead to the collapse of the head of femur and $2^\text{nd}$ osteoarthritis of hip joint
4. Myositis ossificans
   Often seen after open reduction of hip/fracture fixation of acetabulum
Anterior dislocation of hip joint

- Infrequent
- Attitude of limb: flexed, abducted, externally rotated
- Can be of two types:
  - Obturator
  - Pubic
- X-ray is diagnostic
- Closed reduction should be performed at the earliest
- Most complications are same except femoral nerve injury rather than sciatic nerve

Central fracture dislocation

- High velocity injury
- Fall over the lateral aspect of thigh leading to force over the greater trochanter. This forces the head into the floor of acetabulum and fractures the floor causing central fracture dislocation
- Needs closed or open reduction
- Followed by lateral traction
- Complication:
  - Hip osteoarthritis