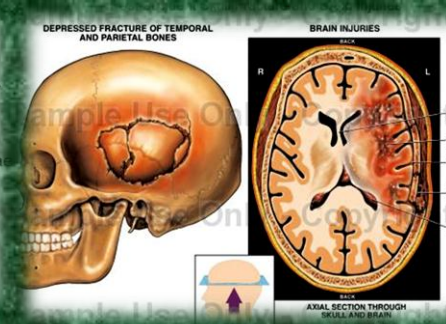
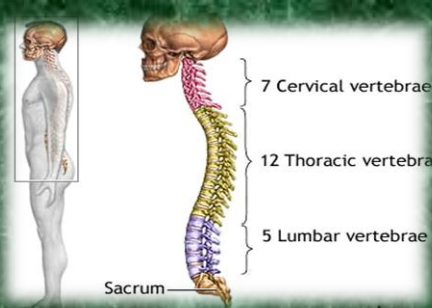
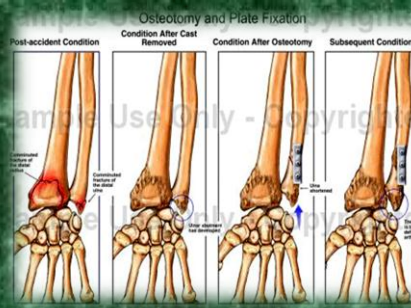
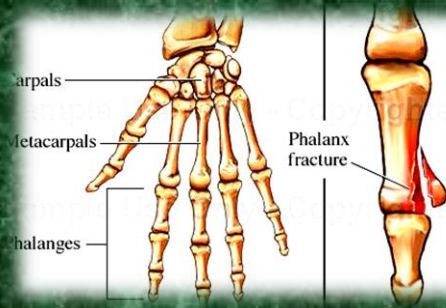


# Dr. Jamal Al-Saidy

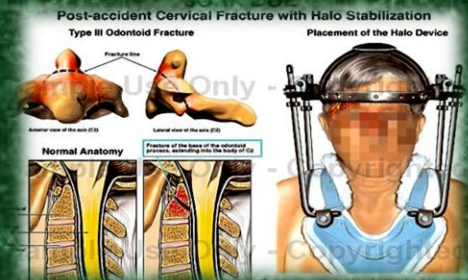
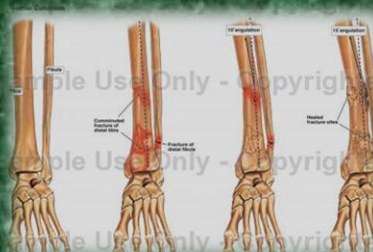
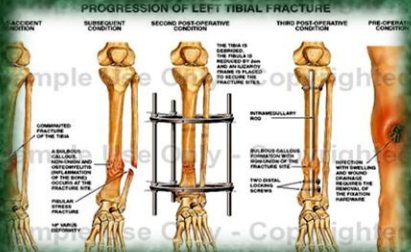
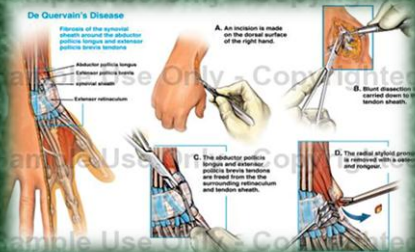
## Assistant Professor and Consultant Orthopaedic Surgeon







# osteochondritis



# Definition

Group of disorders in which there is demarction, fragmentation or separation and necrosis of bone and cartilage

- Mainly adolescent and young adult.
- During phases of increase physical activity.
- May initiated by trauma or repetitive stress .
- Occur in epiphysis or apophysis
- There is no inflammation

Pathology : Features of AVN

Pathogenesis... still not completely understood.

- Impact injuries cause bleeding or oedema in the subarticular bone.
- Capillary compression or thrombosis and ischemia.
- separation a necrotic osseochondral fragment.



# Types :-

- Crushing
- Splitting (osteochondritis dissecans)
- Pulling (tractional apophysitis)

# Crushing Osteochondritis

- ❖ AVN of the ossification centre in a long bone epiphysis or one of the cuboidal bones of the wrist or foot.
- ❖ usually in late adolescent.

The path.... same as those in other form of osteonecrosis

- ❖ bone death.
- ❖ fragmentation.
- ❖ distortion of the necrotic segment.
- ❖ reactive new bone formation around the ischemic trabeculae.

# Clinical F:

- ❖ pain
- ❖ limitation of movement.
- ❖ Tenderness

## x-ray :

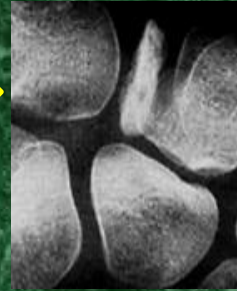
- ❖ increase density.
- ❖ Later stages distortion and collapse

# Examples of a crushing Osteochondritis

➤ Freiberg's d. of metatarsal. → → → → → → →



➤ Köhler's d. of navicular. → → → → → →



➤ Kienbock's d. of lunate. → → → →



➤ Panner's d. of capitulum .

➤ Scheuermann's d. of vertebra

➤ Perthes d. of femoral head.



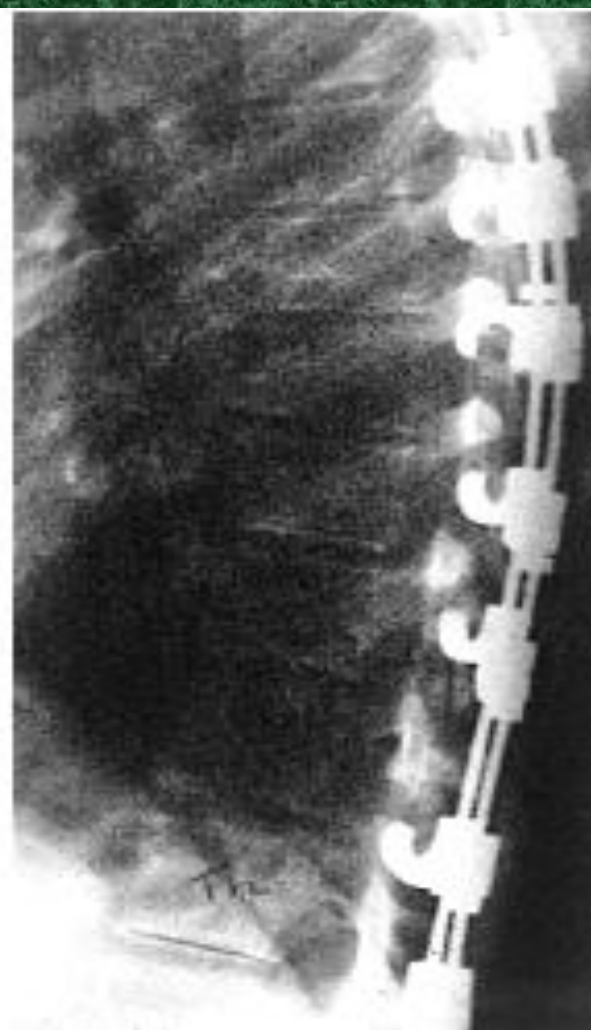
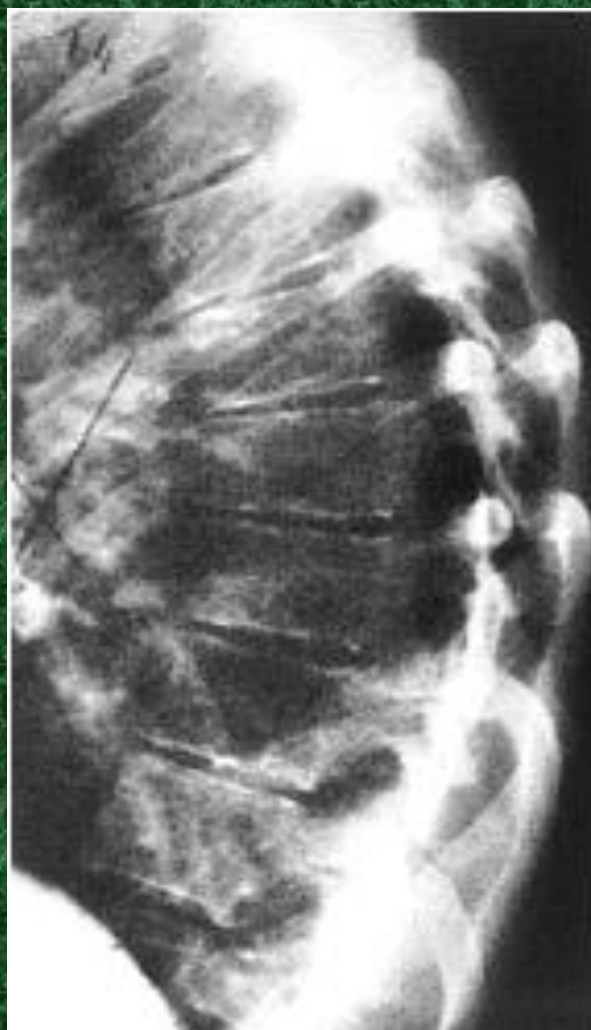
# Scheuermann's disease

- vertebral Osteochondritis, without clear evidence of bone death.
- compression and fragmentation of the vertebral epiphyseal plate lead to distorted growth of the vertebral body.
- occurs during adolescent and may cause back pain and dorsal kyphosis(adolescent K.).

## X-rays

- show irregularity of the vertebral end plate.
- wedge-shape vertebrae(kyphosis).







(a)



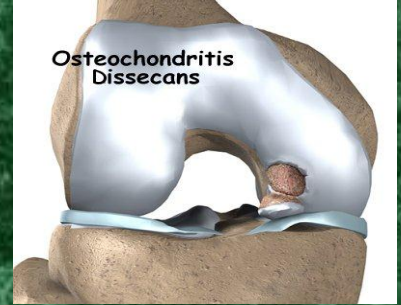
(b)

**18.21 Lumbar Scheuermann's disease** (a) The x-ray appearances of lumbar Scheuermann's disease are often mistaken for a fracture (or worse). The 'fragmentation' anteriorly is due to abnormal ossification of the ring epiphysis. (b) Schmorl's nodes (arrows) may also be seen.



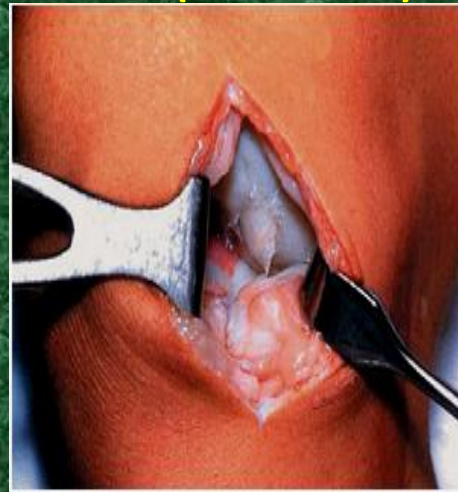
# Splitting-Osteochondritis

(Osteochondritis dissecans)



- ❖ A small segment of articular cartilage and the subjacent bone may separate (dissect) as an avascular fragment.

- ❖ In young adults, usually male



- ❖ Repeated minor trauma resulting in osteochondral fracture of a convex surface and the fragment loses its blood supply.

- ❖ Intermittent pain and joint effusion.

- ❖ Detachment, cause loose body and may locking.

## ❖ Usual sites:

- Knee the lateral surface of the medial femoral condyle(commonest)
- antromedial corner of the talus
- superomedial part of the femoral head
- the humeral capitulum
- the first metatarsal head



## Imaging

- x-ray :- dissecting fragment is defined by radiolucent line of demarcation , when separated the crater may be obvious.
- early changes by MRI.
- Radionuclide scanning show increase activity .

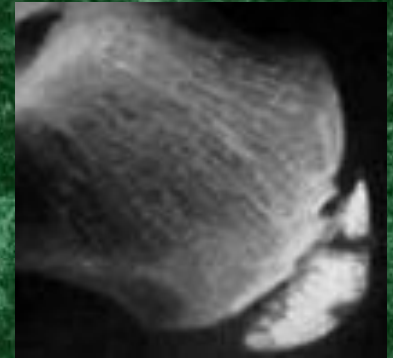
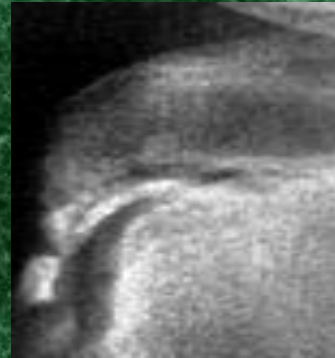
## ❖ Treatment :-

- in early stage , load reduction and restriction activity
- In children complete healing may occur (2 years).
- partially detached fragments may pinned .
- completely detached and causes symptoms, either fixed or removed.
- arthroscopy.

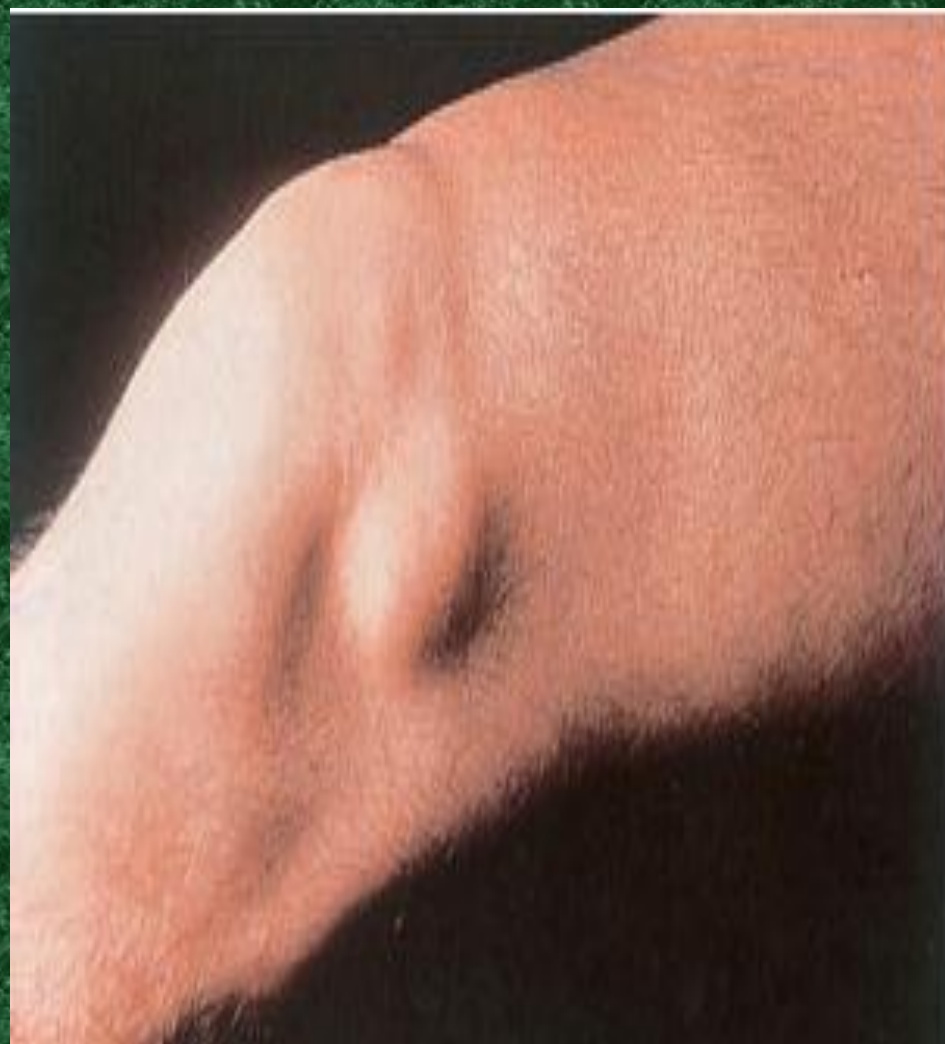


# Pulling-Osteochondritis (Traction apophysitis):-

- due to stress on the physeal junction with unusual traction forces from powerful tendons on unfused apophysis.
- Localized pain
- increase density on x-ray
- Sites:-
  - The tibial tuberosity ( Osgood's – schlatter's disease )
  - Calcaneal apophysis (Sever's disease).
- the bone changes may be reaction to repetitive local trauma rather than true necrosis.
- Rx:rest...analgesia....Immobilization.....  
.....









**THANK**

---

**YOU**

---