

* Head Femur Fracture:-

classified to:-
intra capsular
extra capsular

- ① Intra capsular:-
↓ emergency
- 1- head femur fracture
 - 2- supra capital fracture
 - 3- transcervical fracture
 - 4- 50% of Basal of the femur.
- ↳ not healed
↳ need hemiarthroplasty.
↳ no platelet needed
↳ due to:-
 ① hemidilation of the femur.
 ② microthrombosis [from the synovium]
 ③ absent of periosteum → Avascular.
 ↳ [disturb the BS]

* old age > 60 y need joint replacement.

* middle age → need external fixation if come before the golden time.
↳ [golden time of intra capsular is 6h for fixation]

- ② extra capsular:-
- 1- intra trochanter
 - 2- sub
 - 3- pre condylar

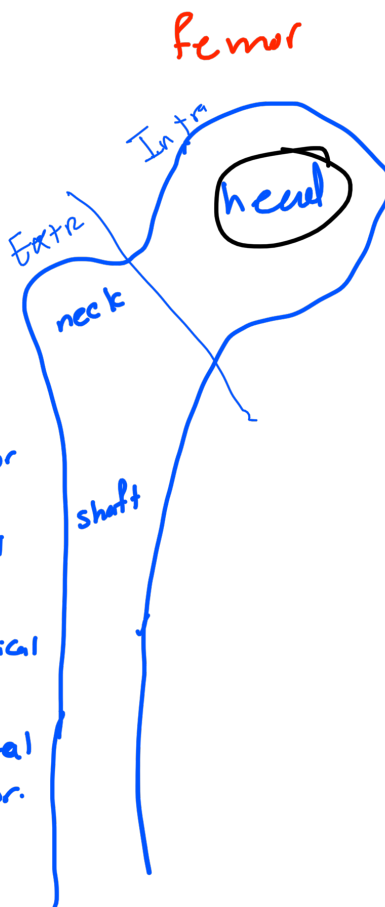
↳ there is healing due to presence of periosteum

and the Ht is DHS ... dynamic hip scope ?!

* compartment

* dislocation

* neck femur



Tibia



- The BS of Bone from nutrient artery [from Periosteum]

- in children the metaph. has strong BS to grow the Bone.

- osteomyelitis in children happen in metaph. region.

3, 9, 1, 1

* dislocation:- disconnection between 2 joint [complete]

* subluxation:- disconnection between 2 joint [partial]

- shoulder mc site of dislocation-

↳ due to free degree of movement [360 degree]

↳ 20-25% of shoulder covered by the labrum of the joint...

* shoulder pain

↳ fracture

↳ dislocation ⇒ ① empty joint

② there is prominent [head]

③ limitation of movement

④ deformity

⑤ severe pain.

Ant 90%
Post 10%

[we do xray]

* in children

↳ Salter Harris classification of growth zone fracture:-
of joints



[tender - swollen - limitation of movement] ⇒ history + exam

① grade I:- shift of metaph. and epi ph.

② grade II:- fracture of "

③ grade III:- fracture of epi

④ grade IV:- fracture of epi + meta

⑤ grade V:- compression of "

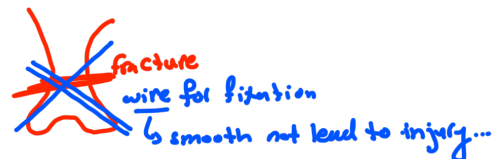
in xray. [AP view]

normally straight epi and met.

* supra condylar fracture:- mc fracture in children...

↳ extension [dist post.] 95%

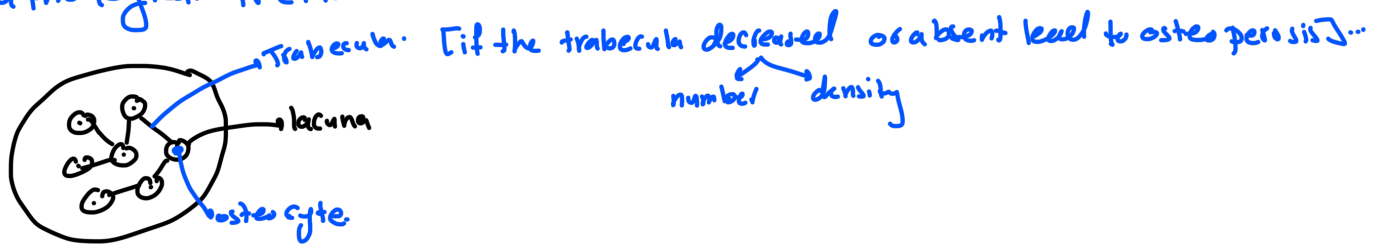
↳ flexion [dist Ant] 5%



keep crying, keep going

* osteoporosis $\Rightarrow$ loss of bone amount $\rightarrow$ $\downarrow$ bone density $\rightarrow$ $\downarrow$ Ca^{2+} , phosphate

* Pathological fracture:



* $\text{VD}_1 \rightarrow$ from sun.

$\rightarrow$ become VD_2 in the liver the VD_3 in kidney
 $\rightarrow$ active.

* in the skin there is cholesterol which become



- fx of $\text{VD}_3 \rightarrow$ absorption of Ca^{2+} from duodenum. to the bone.

- rickets due to malabsorption or not exposed to the sun...

- ↳ varum morment...
- ↳ delay of fontanyl closure...
 - ↳ 1.5 cm X 1.5 cm [0.5 cm radii 6 M. 5]
- ↳ head enlargement...
- ↳ excavatum chest wall..
- ↳ enlargement in the abdomen...
- ↳ in xray
 - ① widening in the meta epi.
 - ② cupping. of meta epiphesis
 - ③ irregular. " "

} in joints

- LABs :-
- ① ALP [high]
 - ② phosphate [low]
 - ③ normal total Ca^{2+}
but not reach the bone..

!!! give them VD ...

* diaphysis is compact bone...

* trabecular system & bone fallor longitudinal adapt the weight bearing
↳ distribute the body weight

→ if there is abnormal trabecular system and with the over load
lead to stress fracture

Bone form from:- ① osteocyte [osteocyte - osteoblast - osteoclast] ^{mature cell}
② minerals [Ca^{2+} - phospher] → give the bone hardness ^{for remodeling}
③ matrix [collagen → fibrous tissue] ^{give the bone the shape}
↳ for the remodeling.

- Hoven bone → hard callus
↓

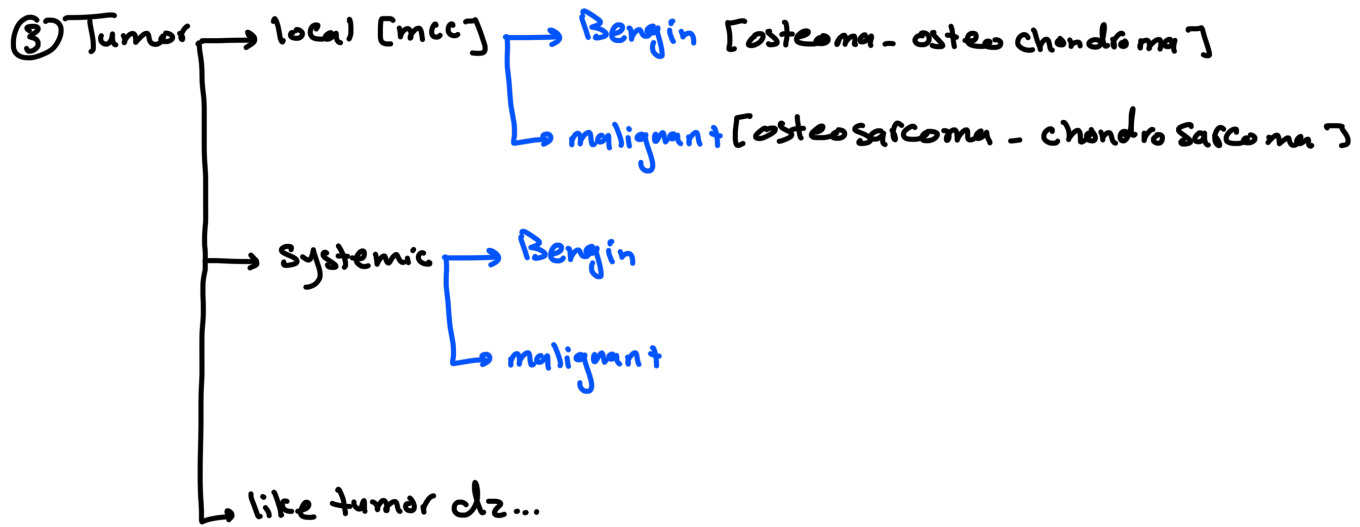
Pathological fracture:- acquired.
① metabolic dz [mcc] → osteoporosis

[loss of the bone amount + demineralization]...

osteomalacia / Rickets ^{→ children} → demineralization of the bone...
So the bone become soft...

↓
after closure of
growth plate
[adult]

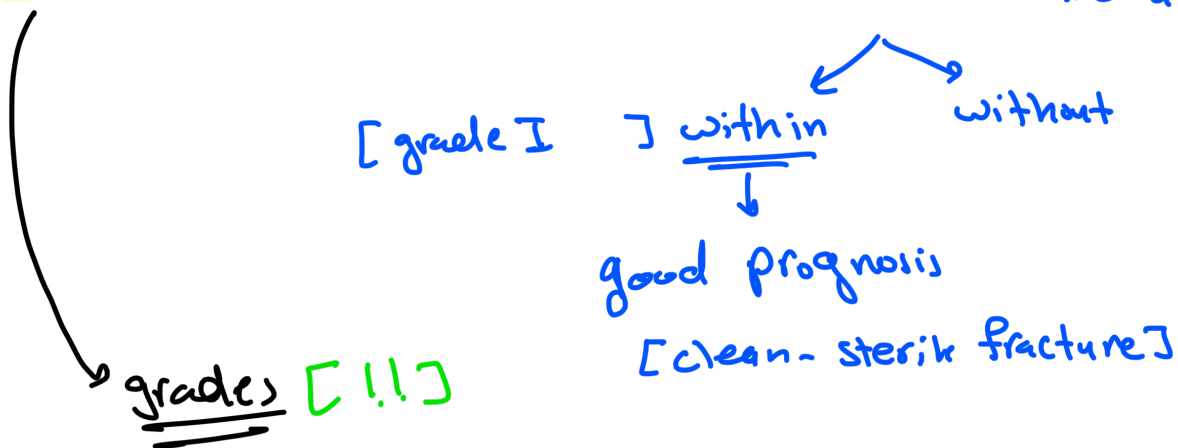
② metabolic congenital:-



④ Autoimmune [Paget dz]

⑤ infection.

* open fracture:- communication between the fracture and atmosphere..



* Close fracture:- no communication between the fracture and atmosphere..