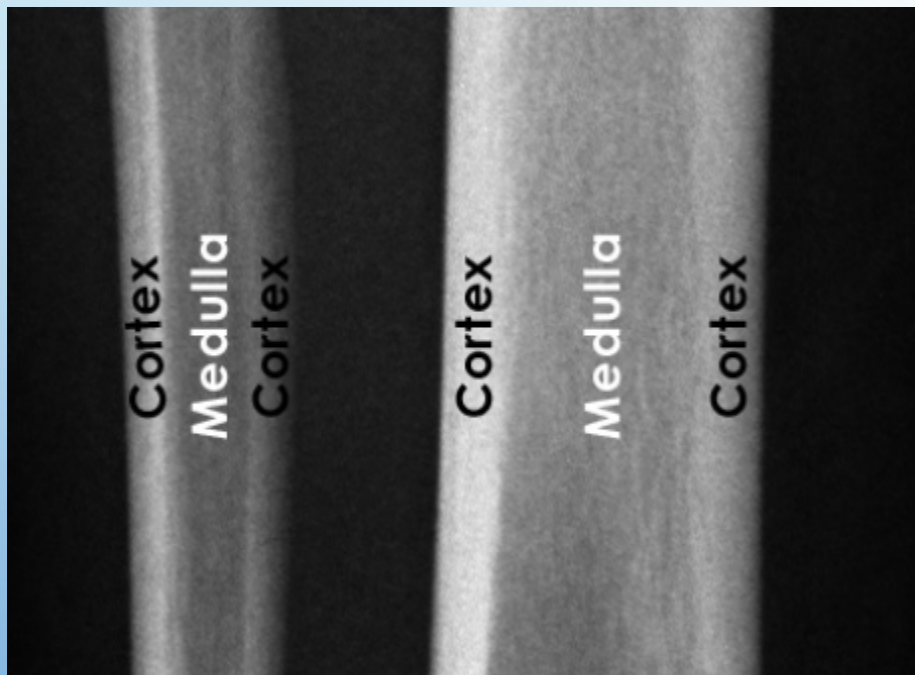




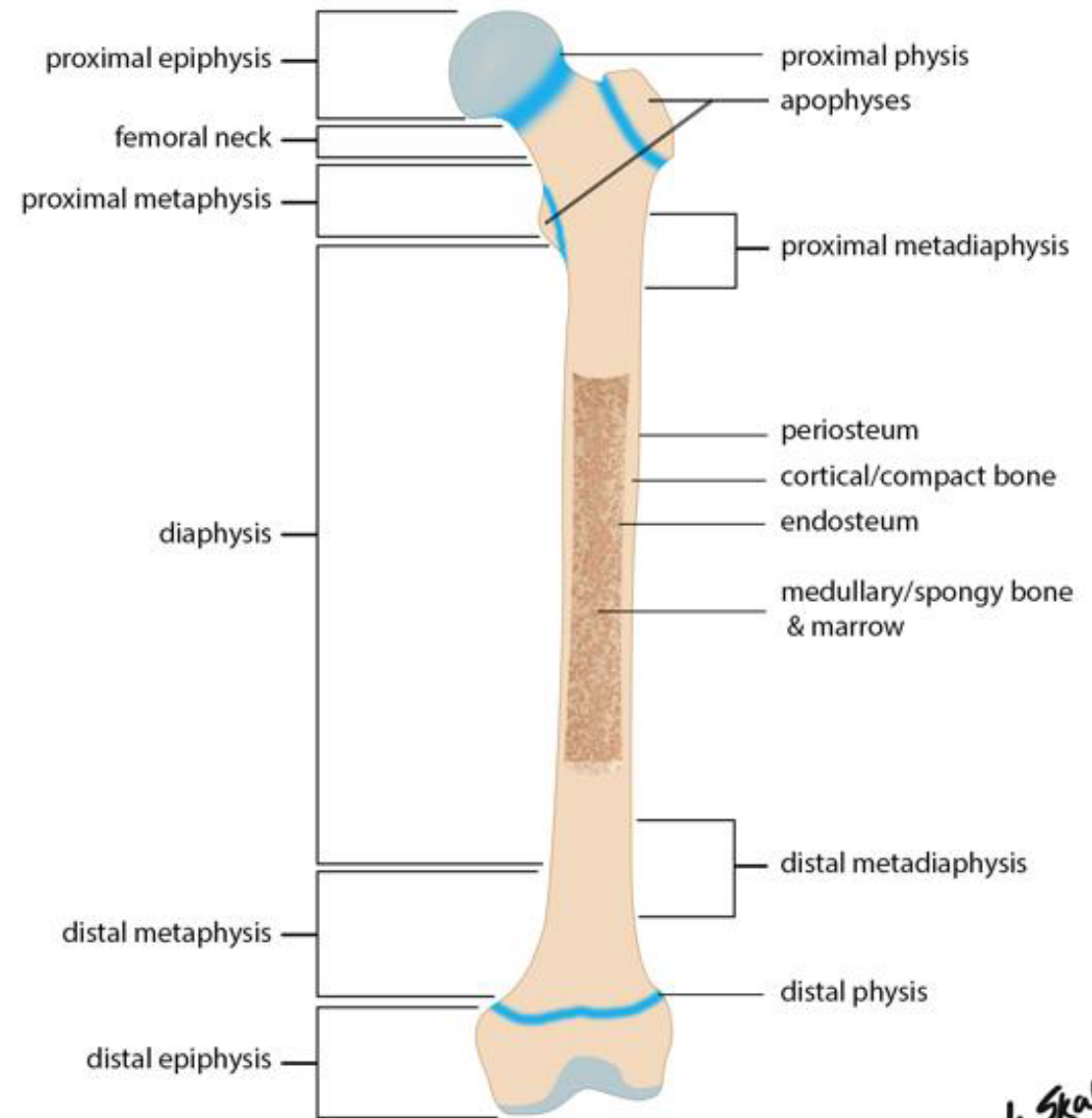
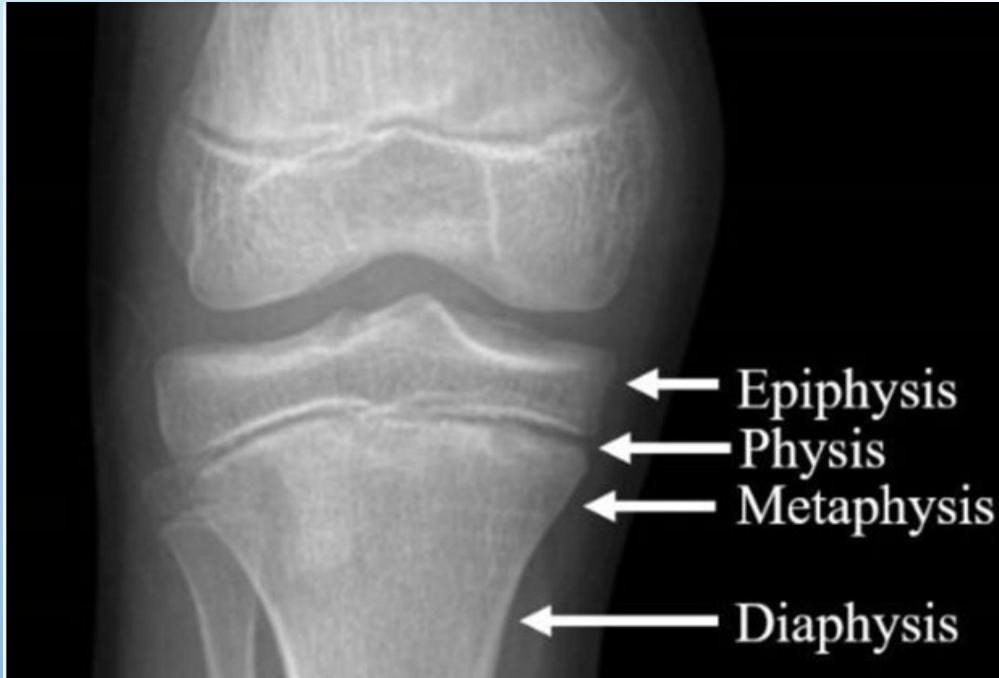
بیماری های استخوان

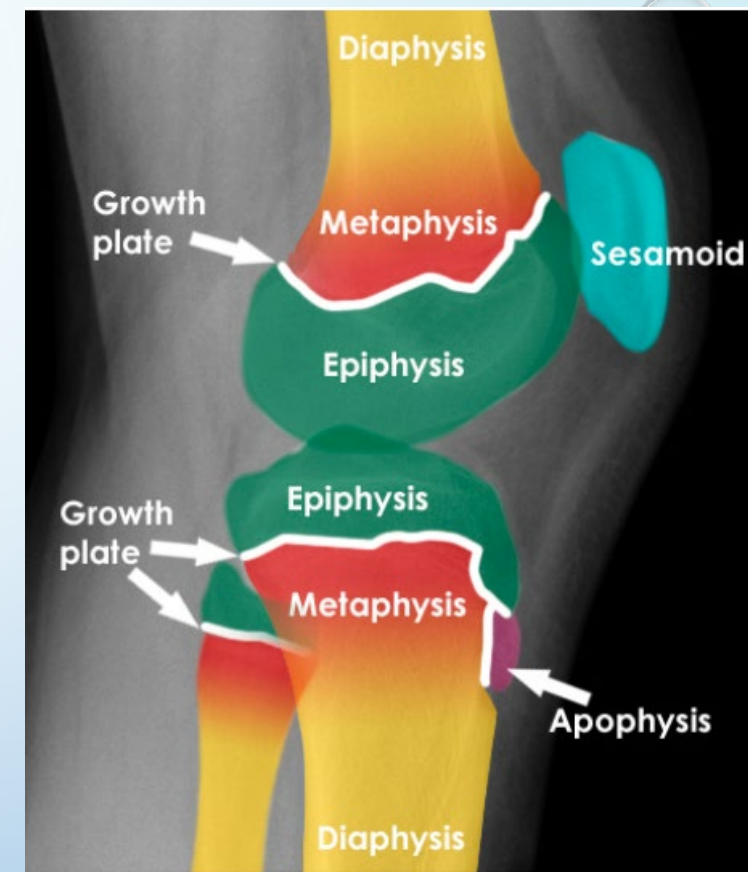
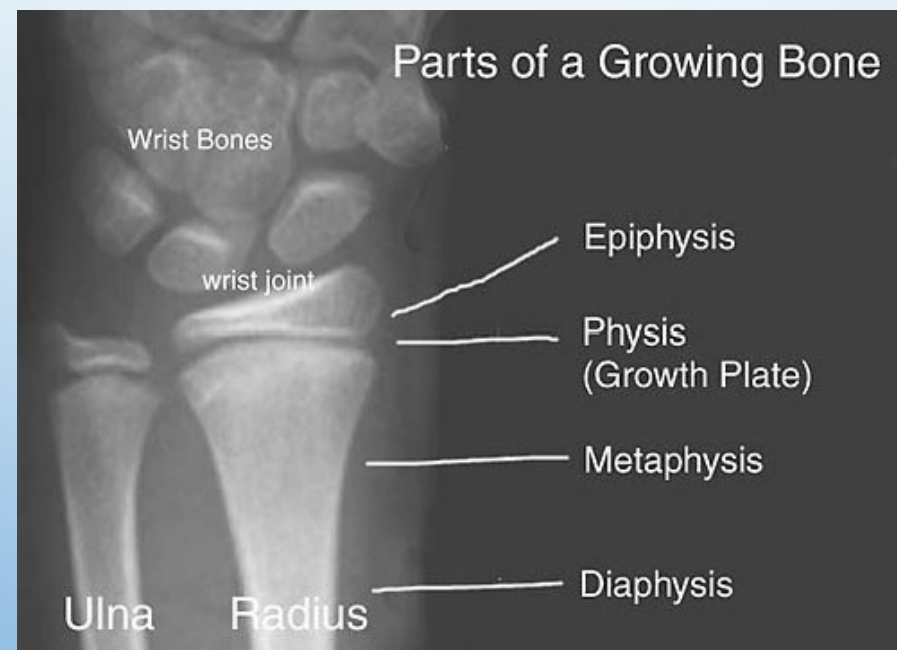
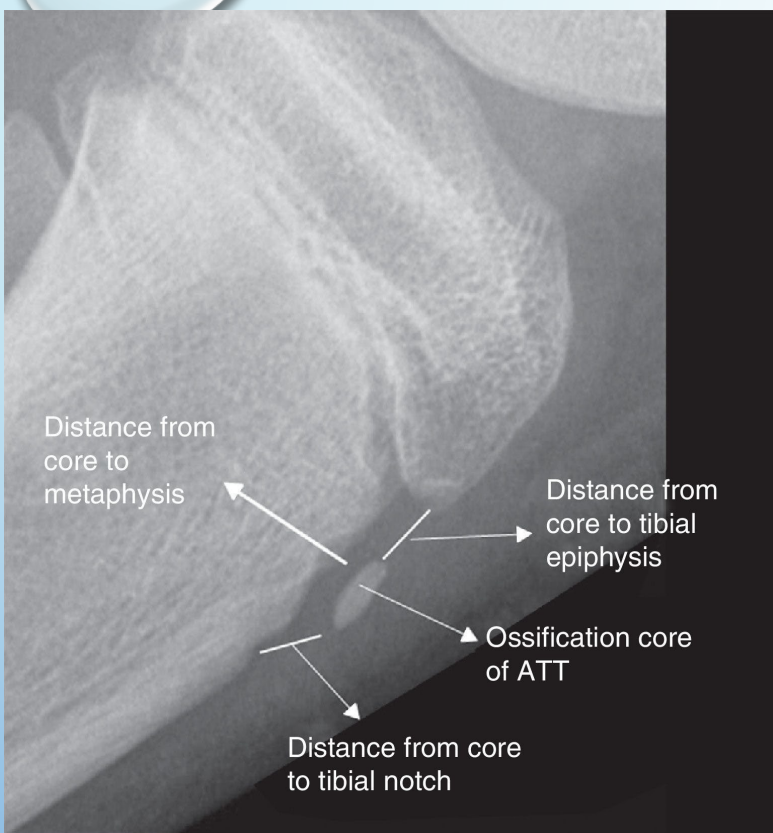


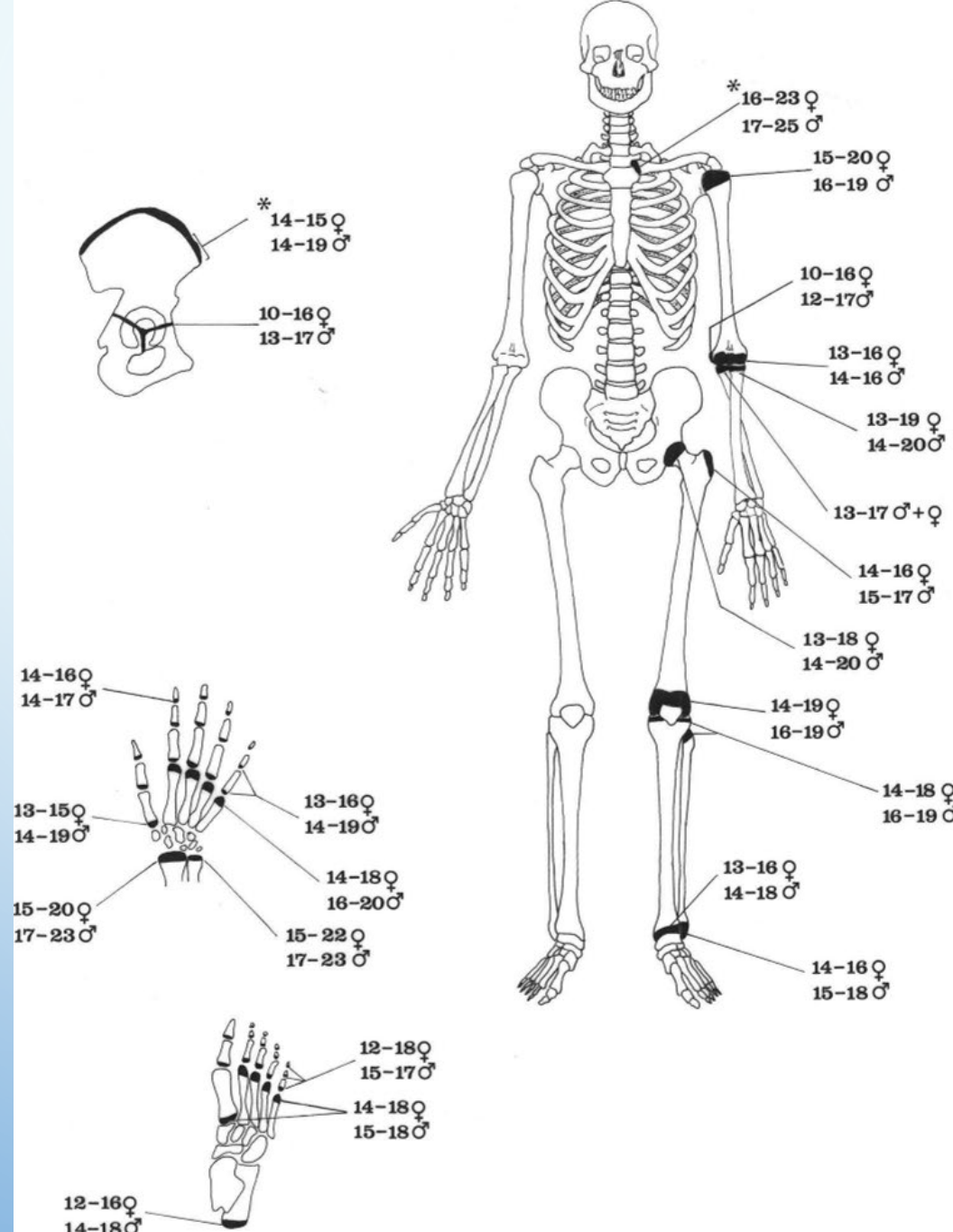
BONE CORTEX AND MEDULLA



BONE PARTS

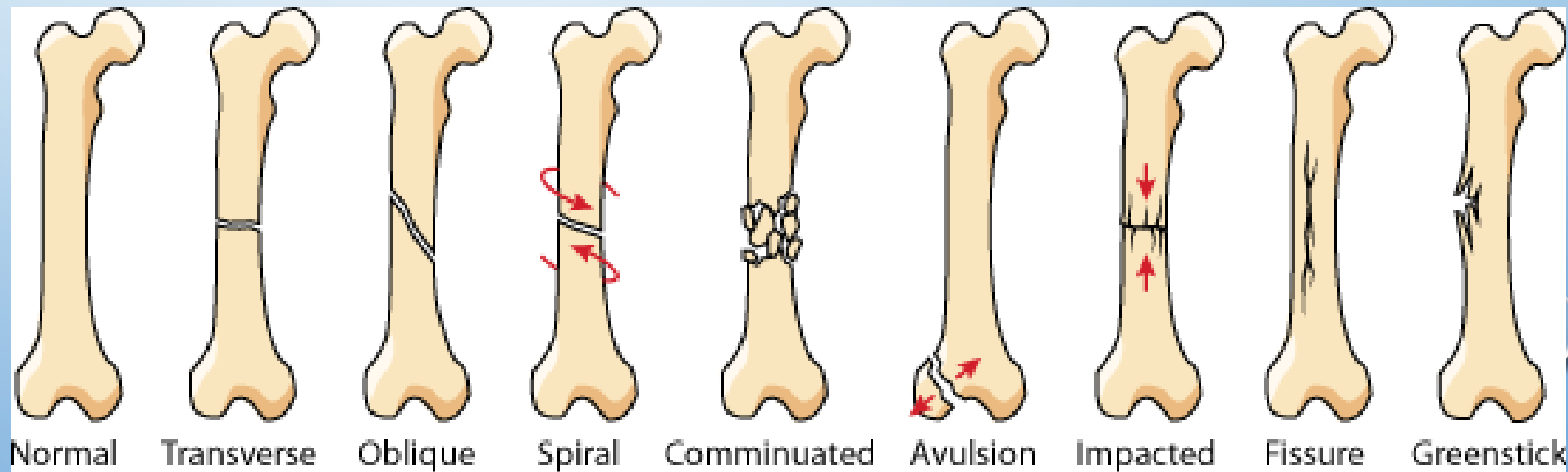
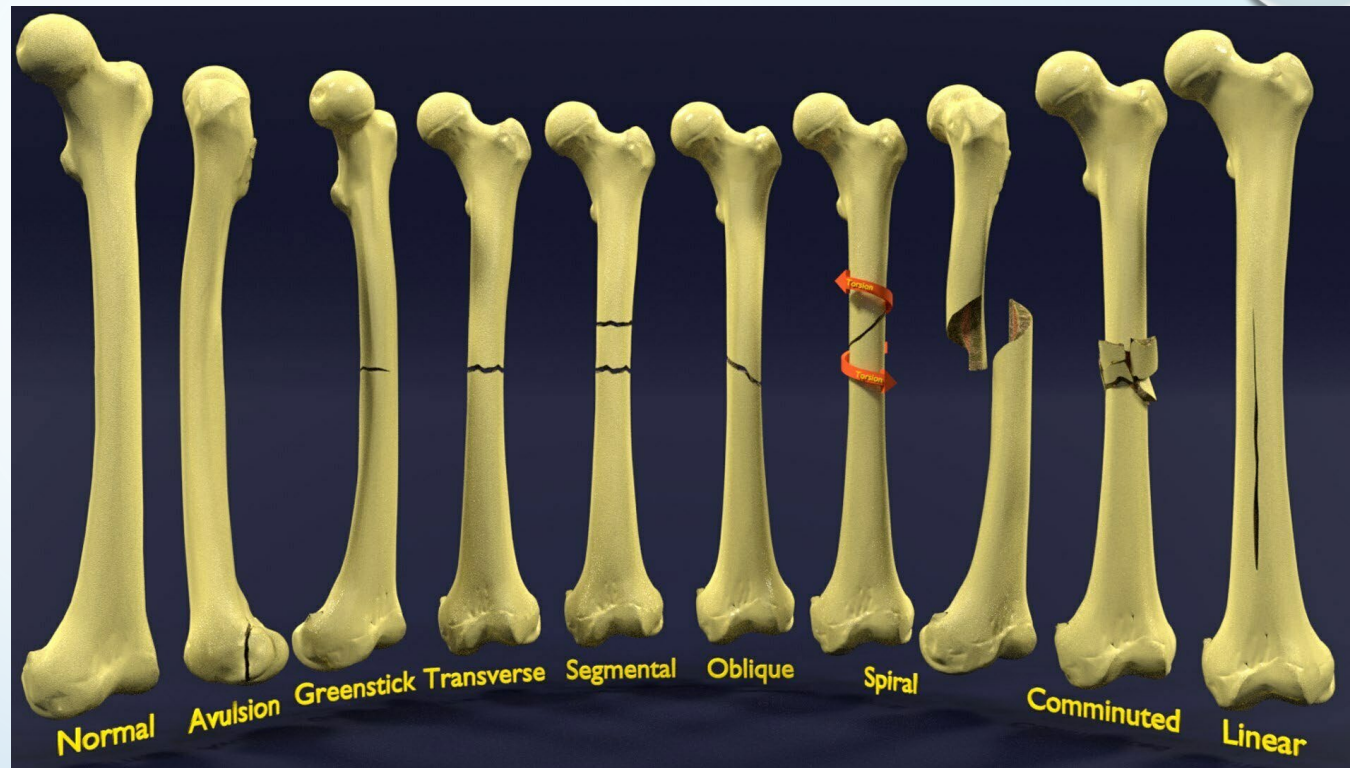






Fracture Types

- ❖ **COMMINUTED FRACTURE**
- ❖ **AVULSION FRACTURE**
- ❖ **STRESS FRACTURE**
- ❖ **GREENSTICK FRACTURE**
- ❖ **DISPLACED FRACTURE**
- ❖ **SPIRAL FRACTURE**
- ❖ **TRANSVERSE FRACTURE**
- ❖ **IMPACTED FRACTURE**
- ❖ **HAIRLINE FRACTURE**
- ❖ **SEGMENTAL FRACTURE**
- ❖ **LINEAR FRACTURE**
- ❖ **OBLIQUE FRACTURE**



TRANSVERSE FRACTURE



SEGMENTAL FRACTURE



GREENSTICK FRACTURE



a.



b.



BOWING FRACTURE

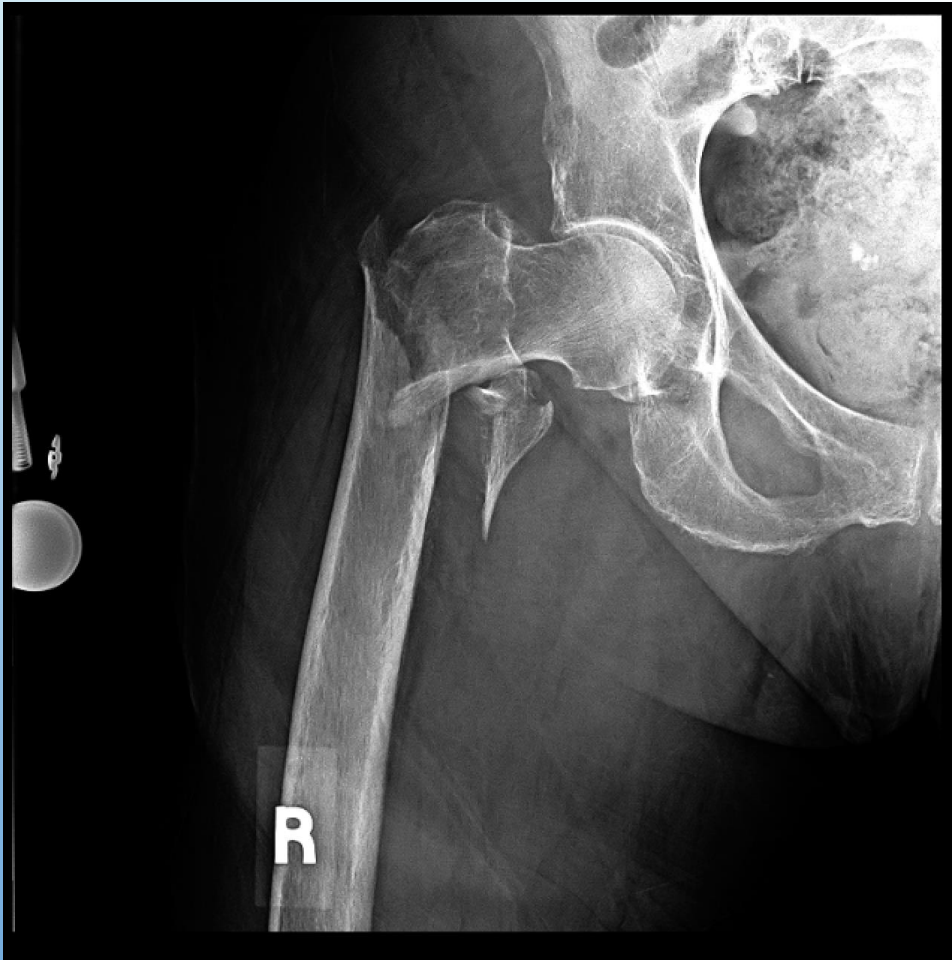




NIGHTSTICK FRACTURE

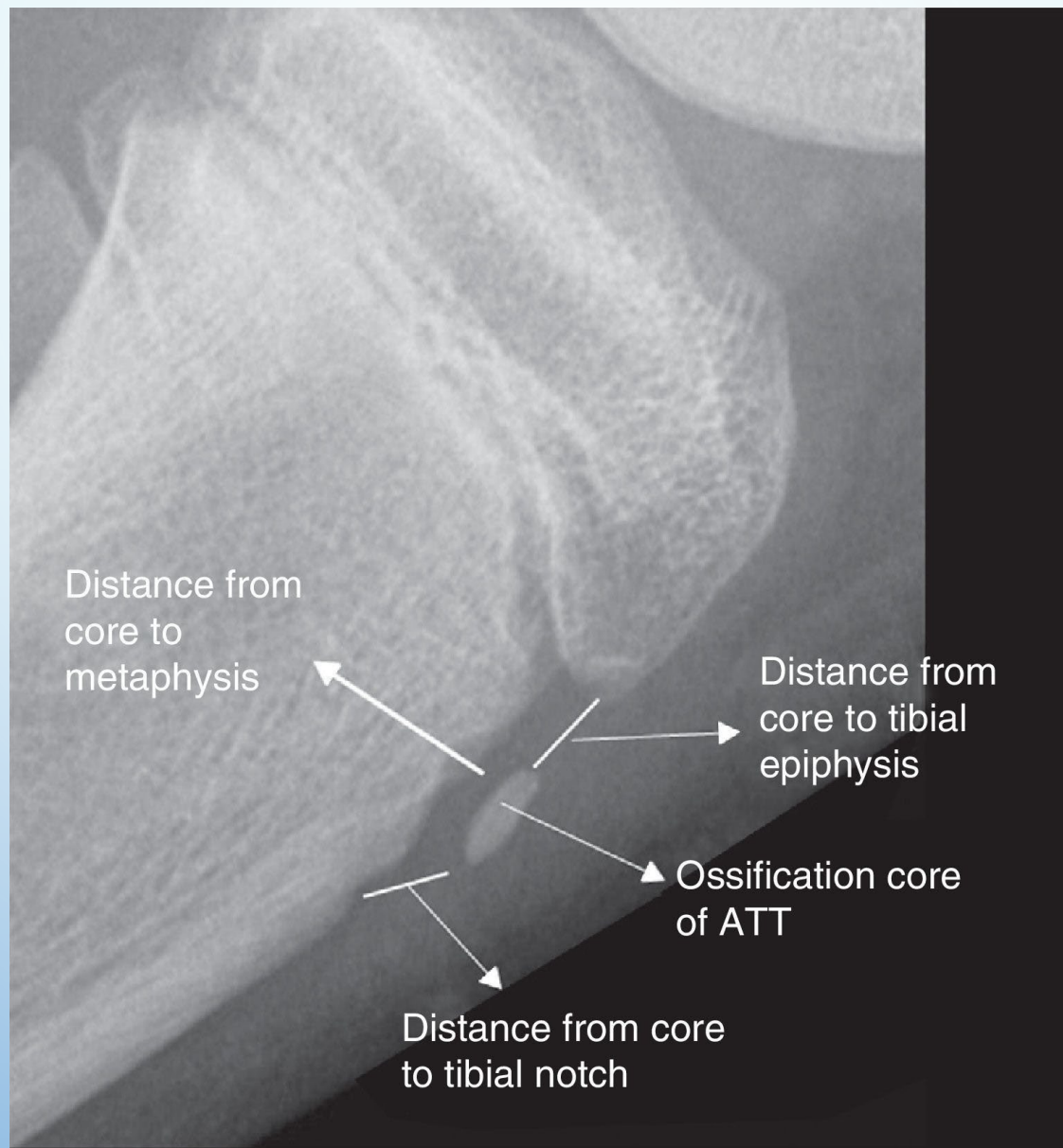


COMMINUTED FRACTURE



AVULSION FRACTURE





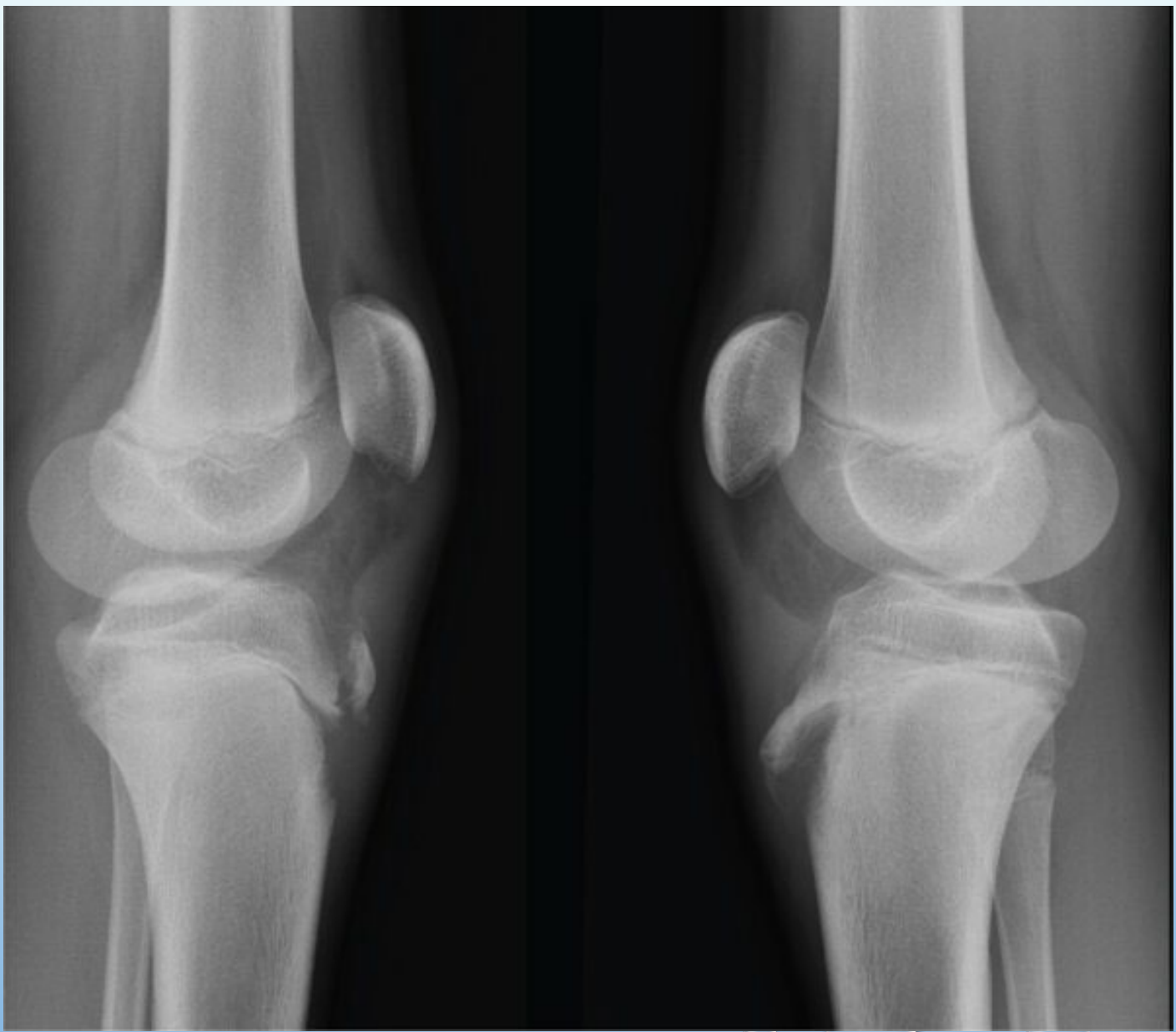








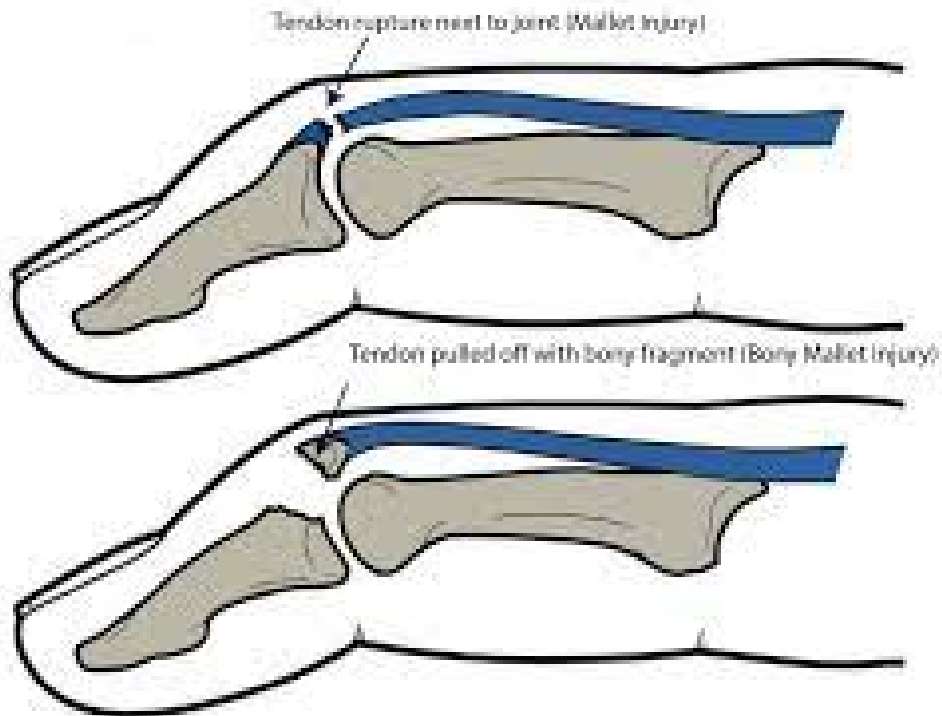








AVULSION FRACTURE BASEBALL FINGER Mallet Finger



گيرافتادگی خلفی مچ پا

OS TRIGONUM SYNDROME OR POSTERIOR TALAR IMPINGEMENT



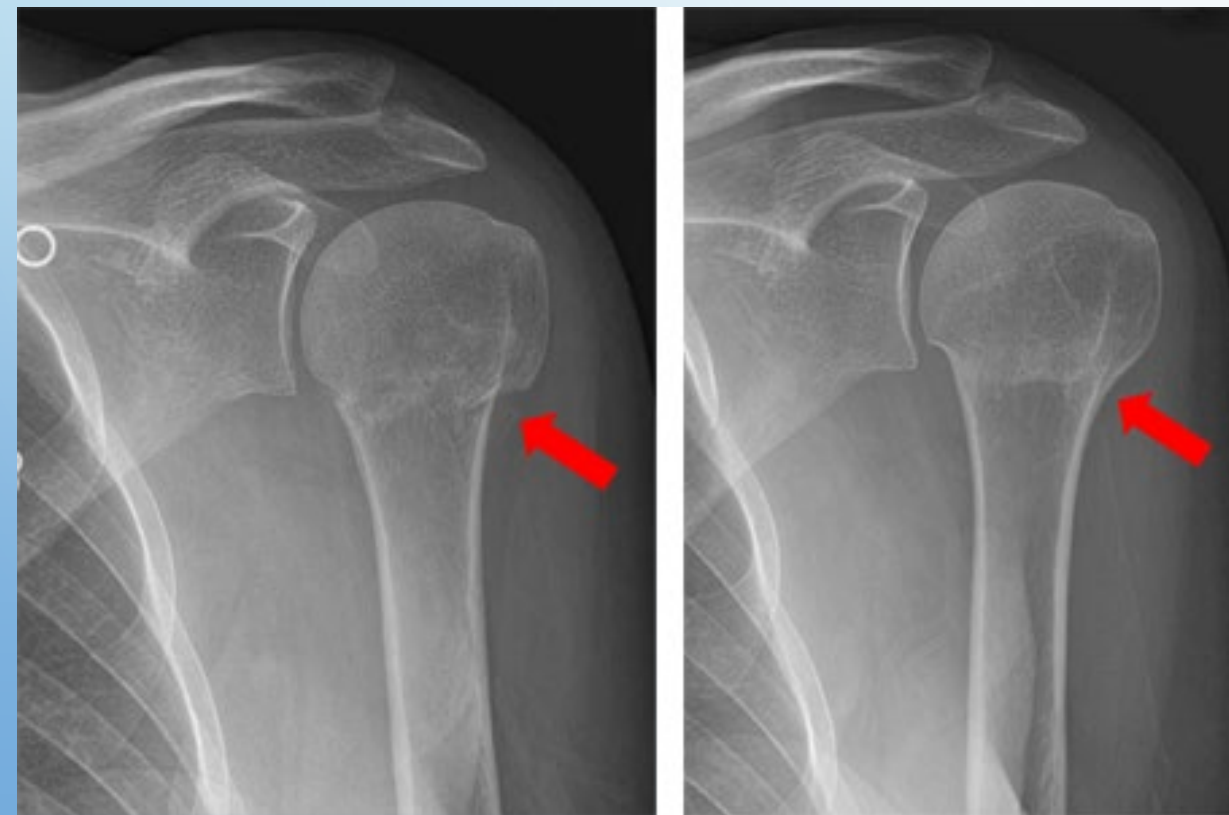


SPIRAL FRACTURE





IMPACTED FRACTURE



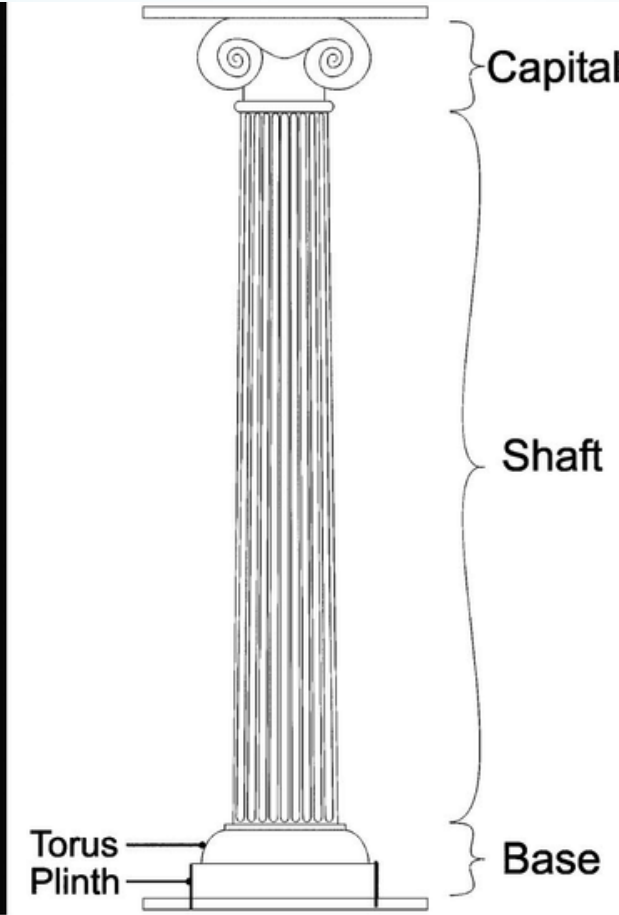
TORUS FRACTURE



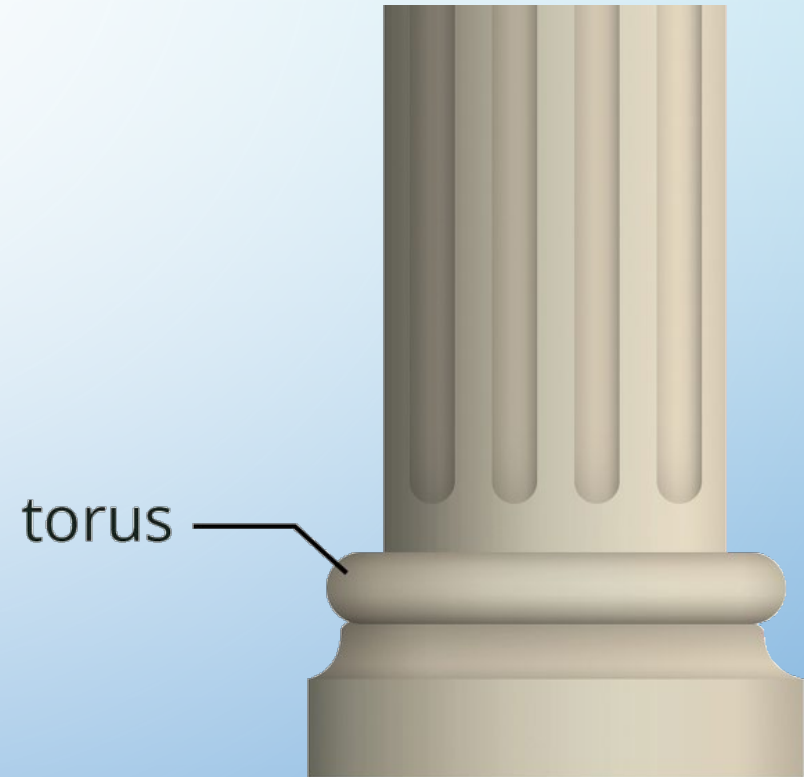
TORUS FRACTURE OR BUCKLE FRACTURES



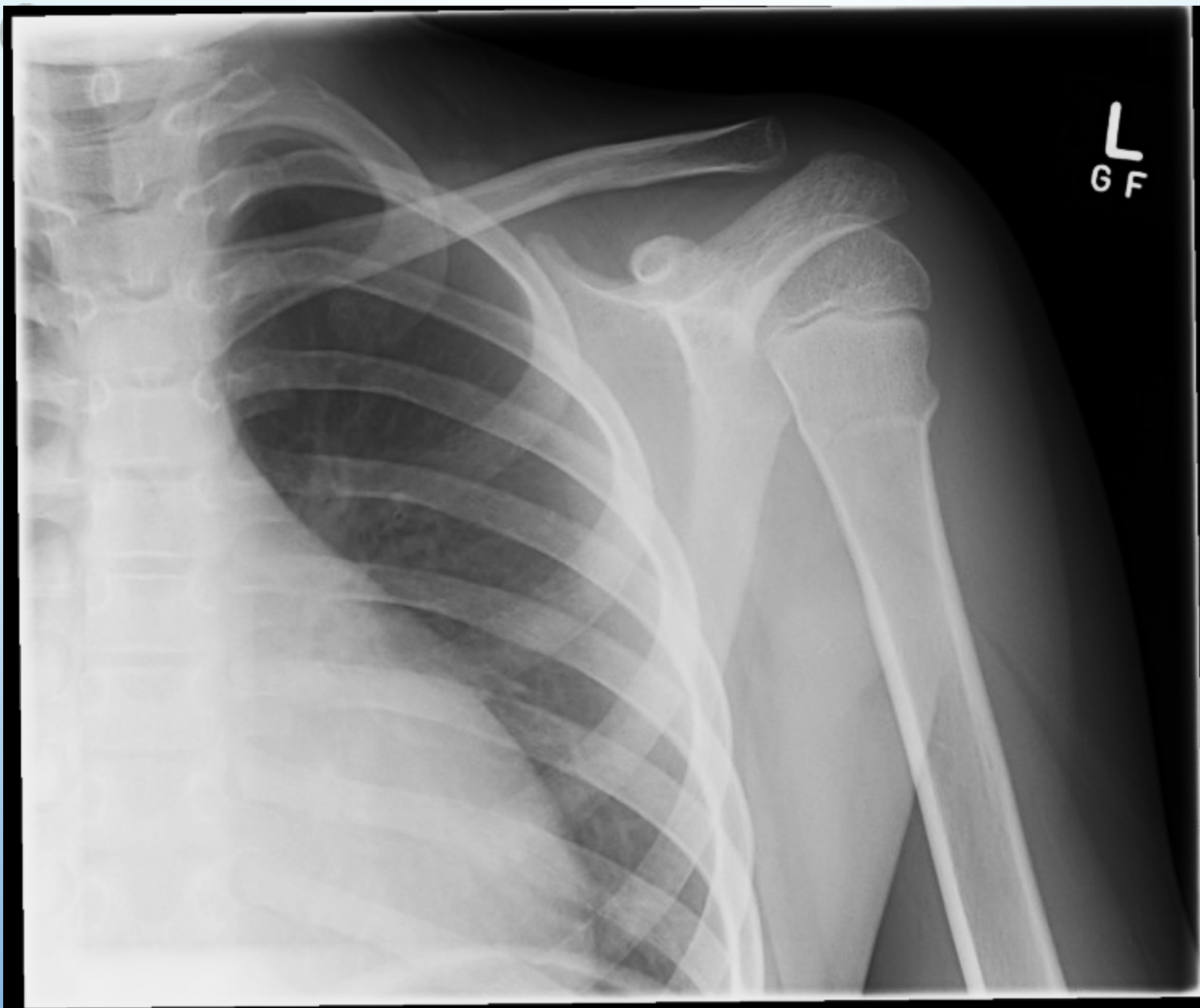
a.



b.







BOXER FRACTURE

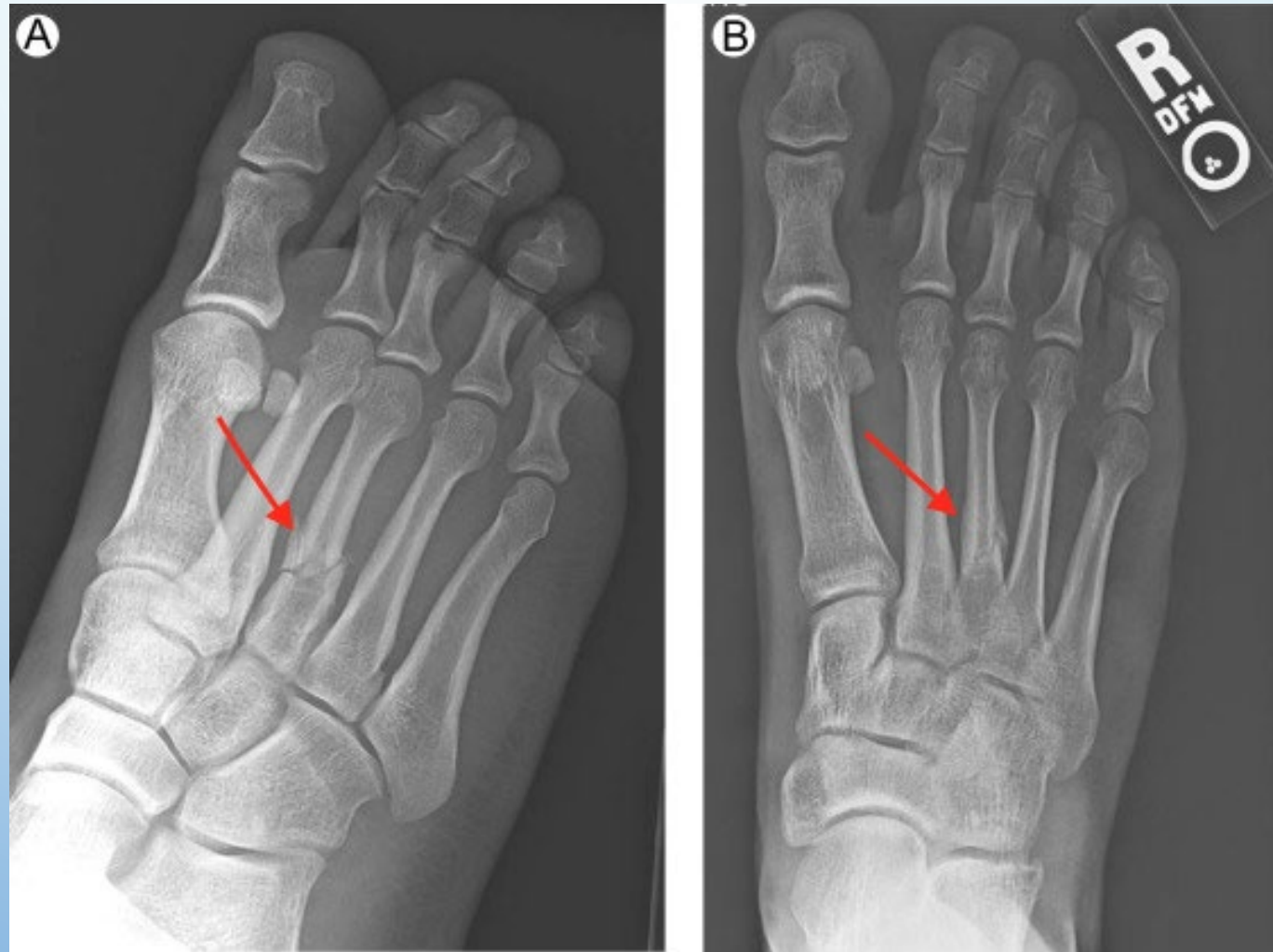
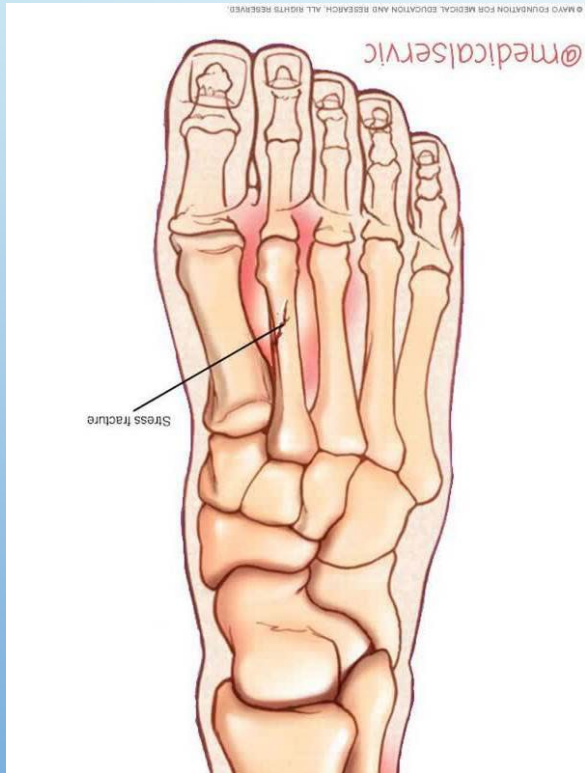


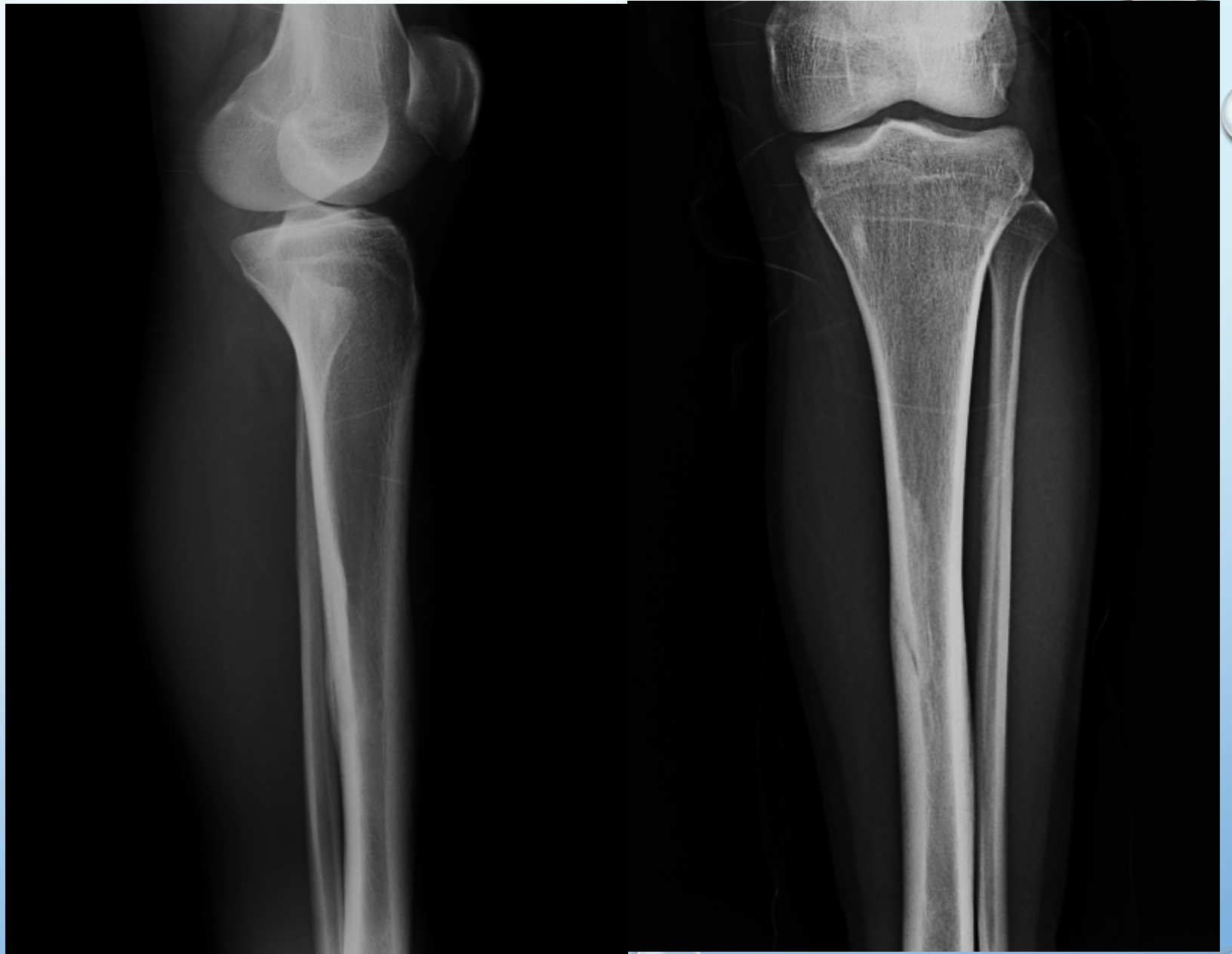
JONES FRACTURE



MARCH FRACTURES

METATARSAL STRESS FRACTURES





LINEAR FRACTURE



COLLES FRACTURE

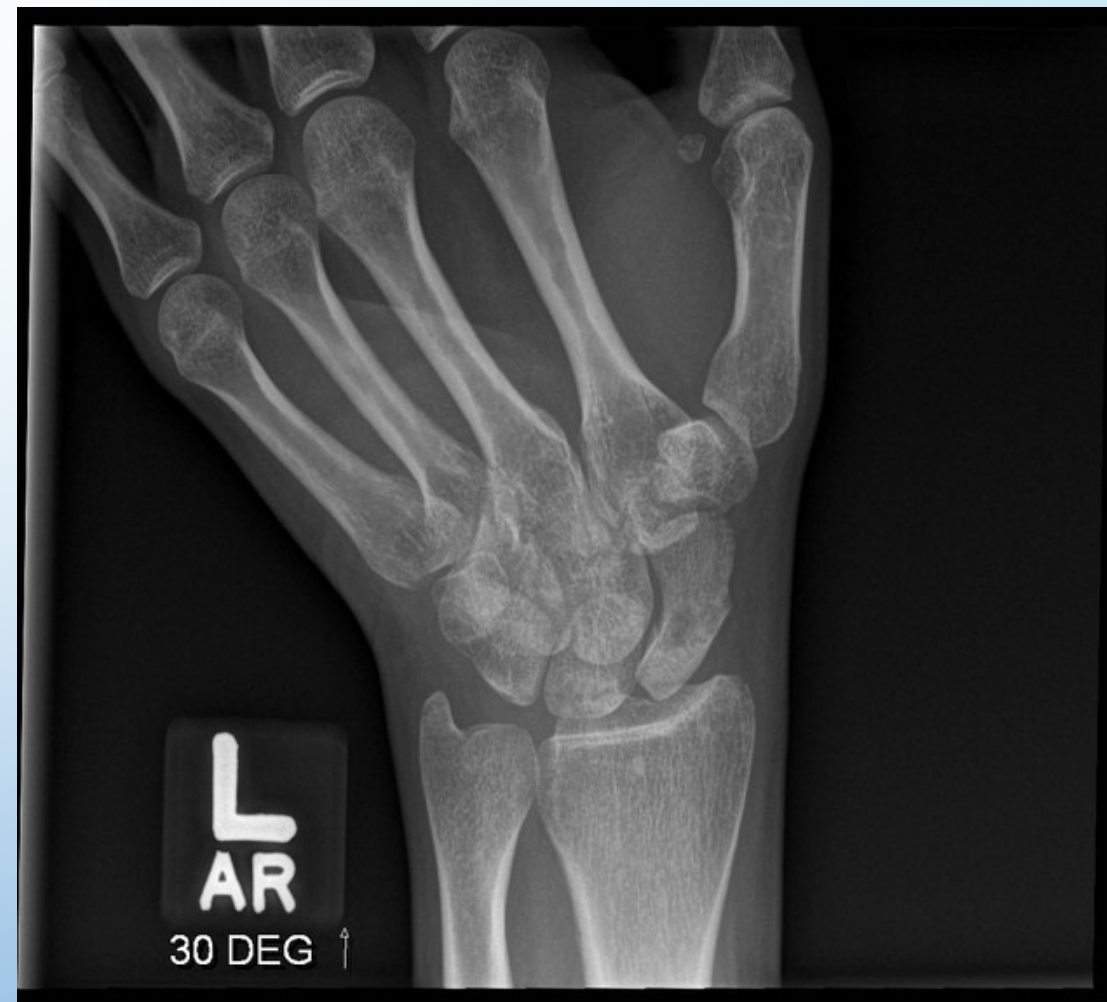


SMITH FRACTURE













SALTER-HARRIS CLASSIFICATION

Normal



Type-1



S

Straight
across

Type-2



A

Above

Type-3



L

Lower or
Be**L**ow

Type-4



T

Two or
Through

Type-5

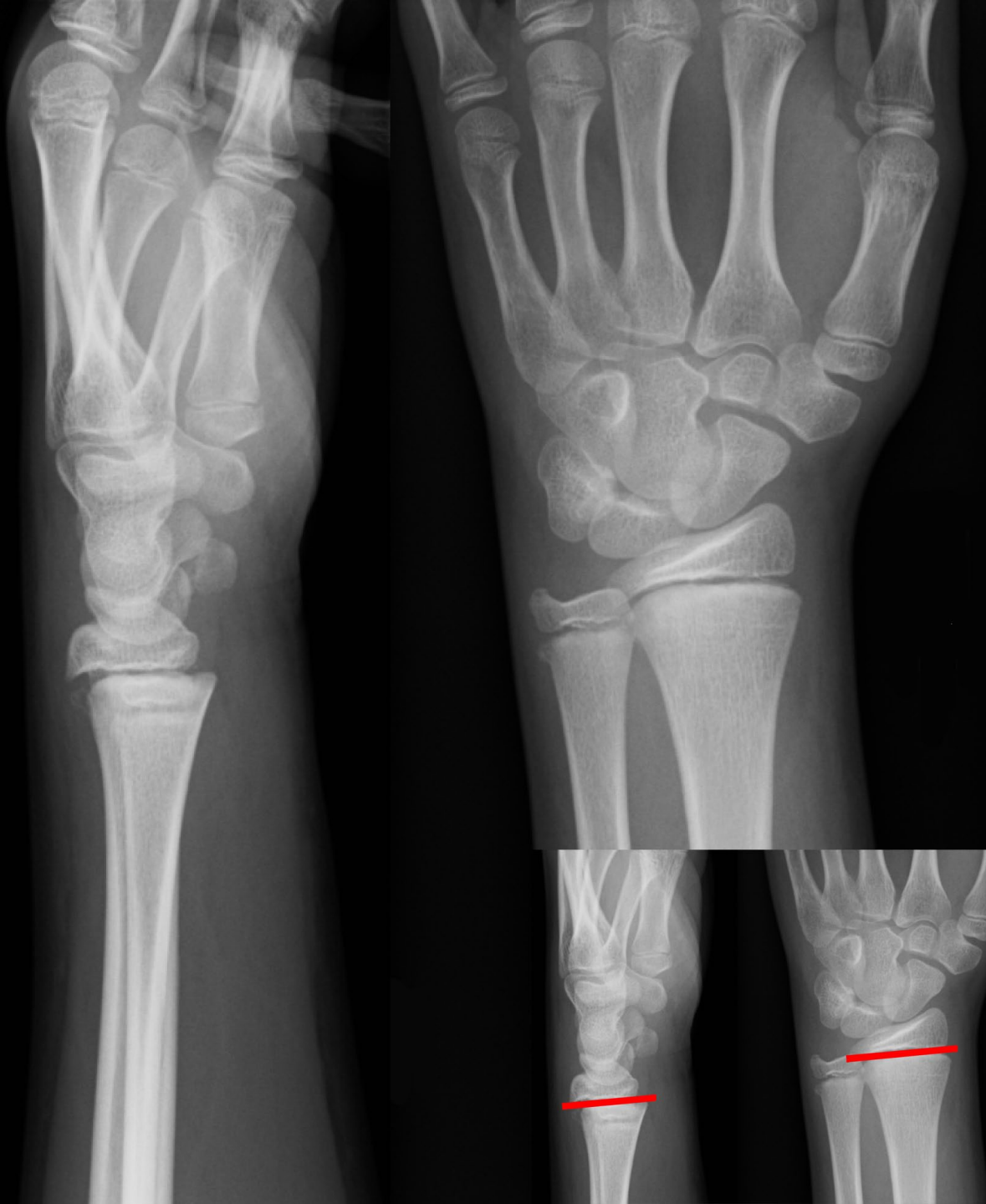


ER

ERasure
of growth
plate or
CRush



TYPE I



TYPE II



TYPE III



TYPE IV



CASE 1

5640099399
MIR HEYDARI, HOSSEIN

02/15/2024
12:56
Upper limb, Hand, Lower limb
Wrist PA

S:564
KV:49
mAs:5
dGycm²:

DX
EMAM KHOMEINI JARQOORYEH HOSPITAL



CASE 2



CASE 3



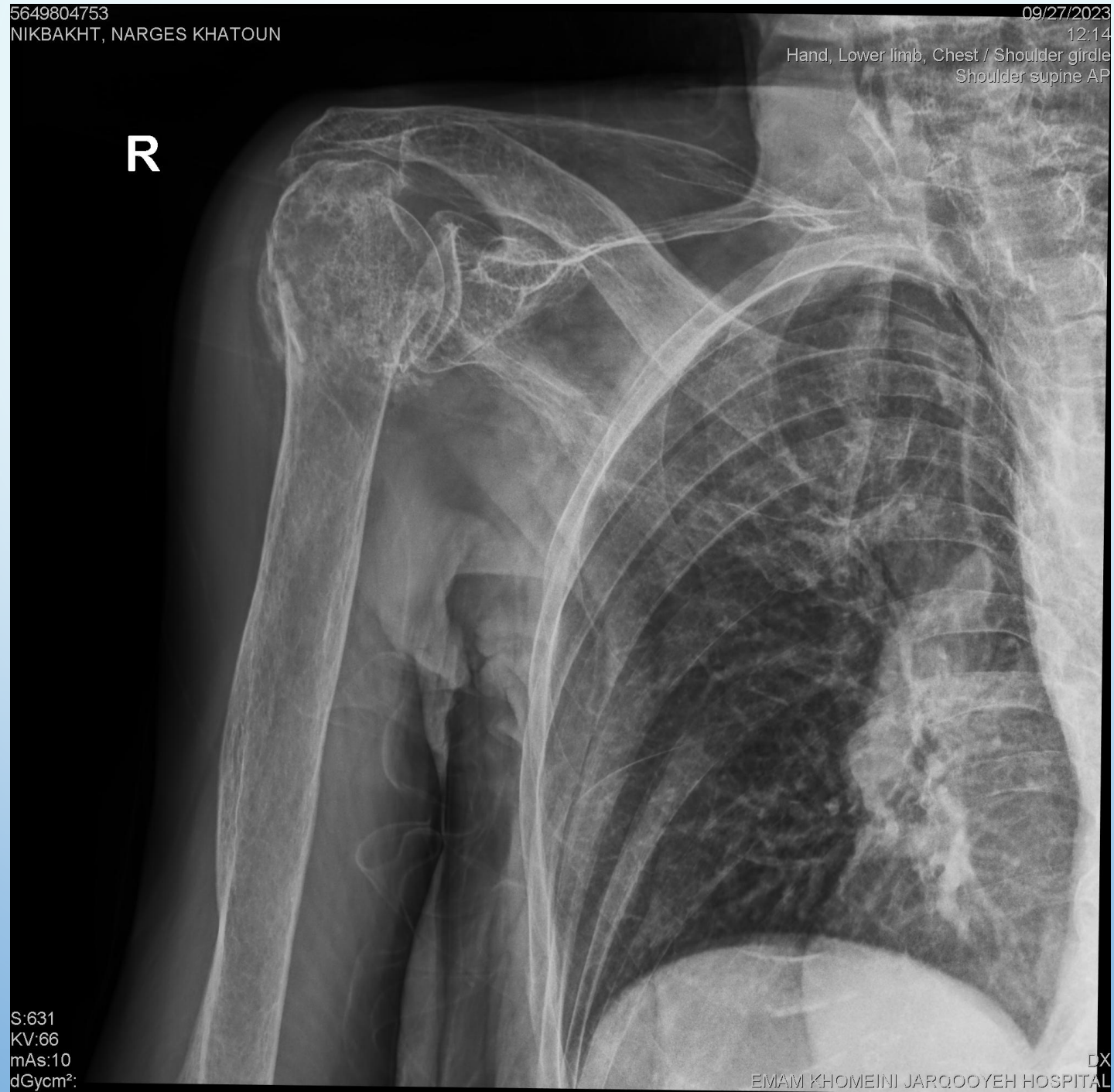
R

CASE 4

S:631
KV:66
mAs:10
dGycm²:

EMAM KHOMEINI JARQOUEH HOSPITAL

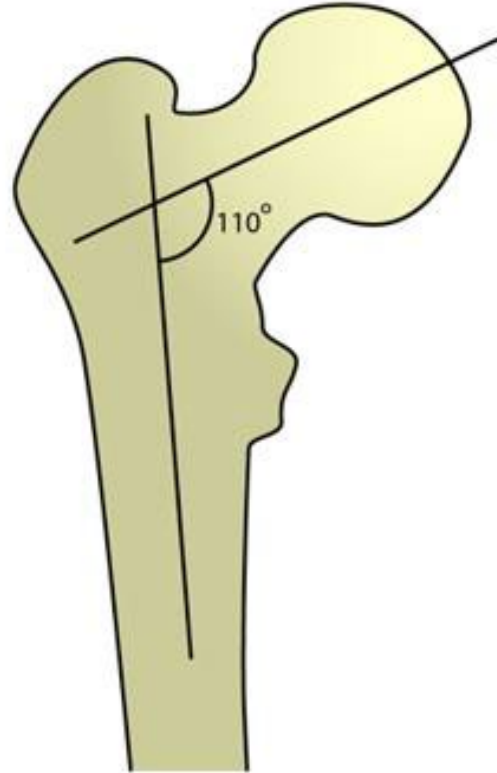
DX



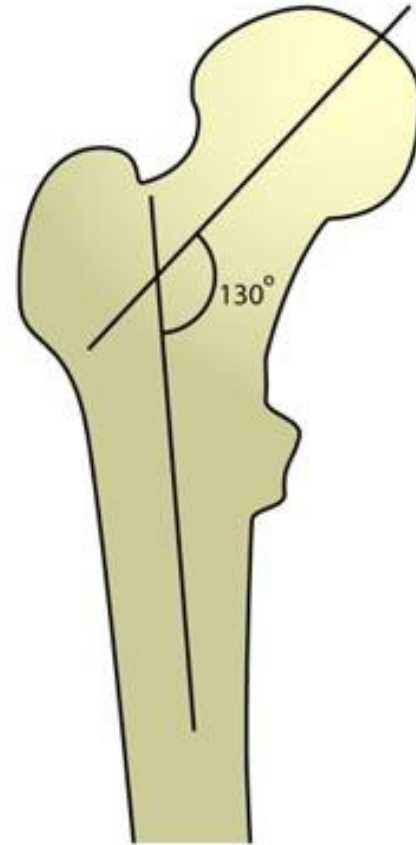
COXA VALGA



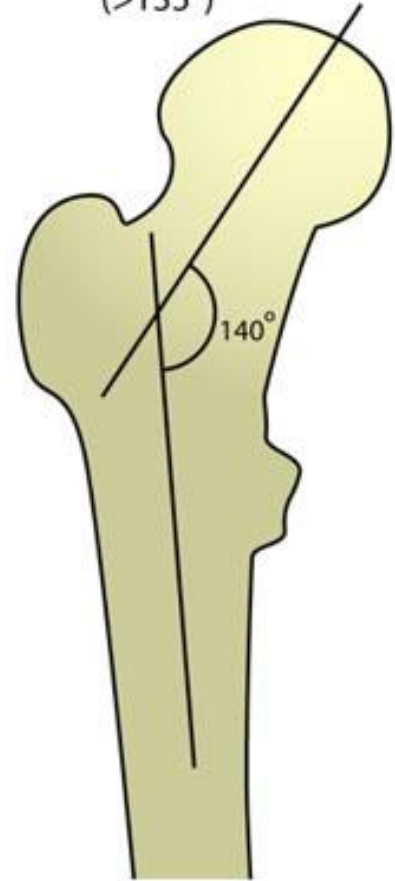
Coxa vara
($<120^\circ$)

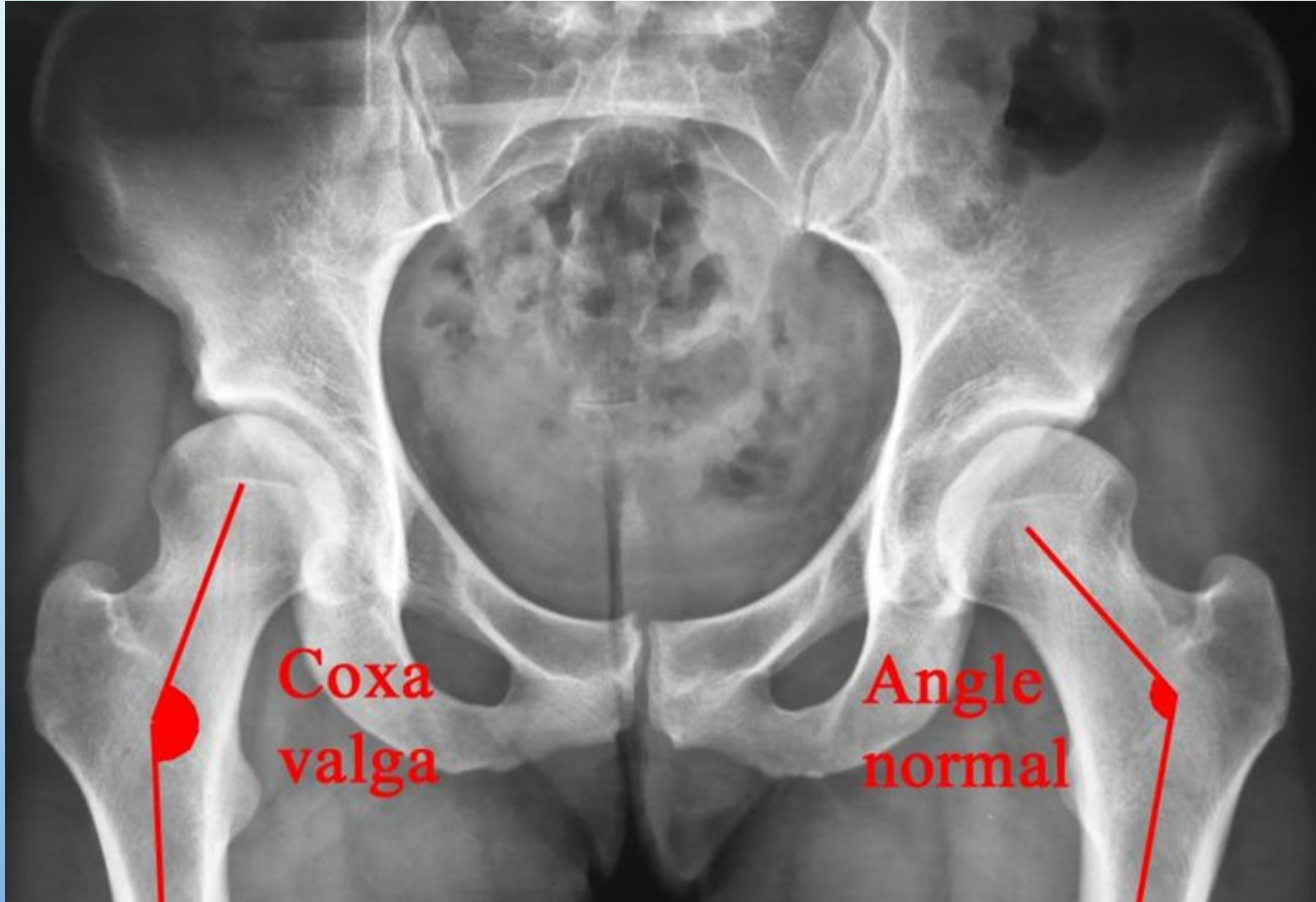


Normal
(120° - 135°)



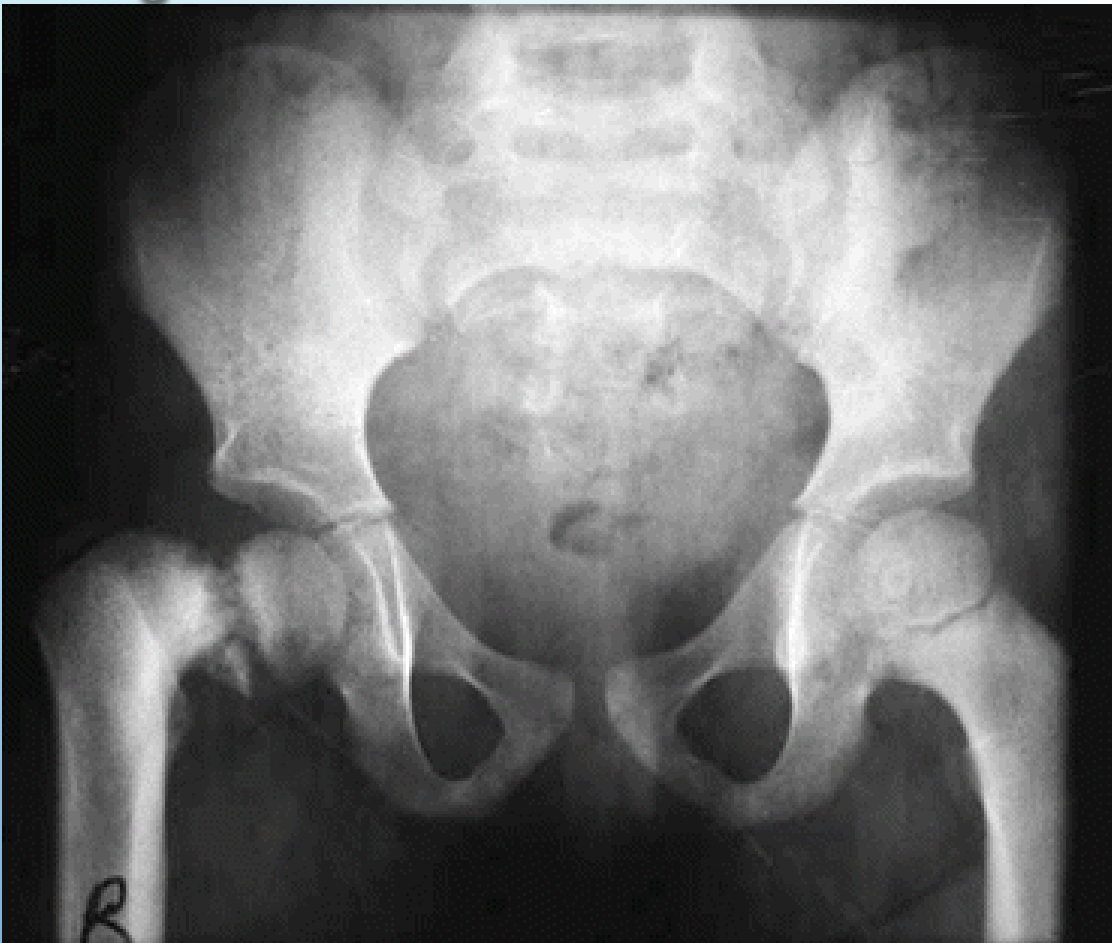
Coxa valga
($>135^\circ$)

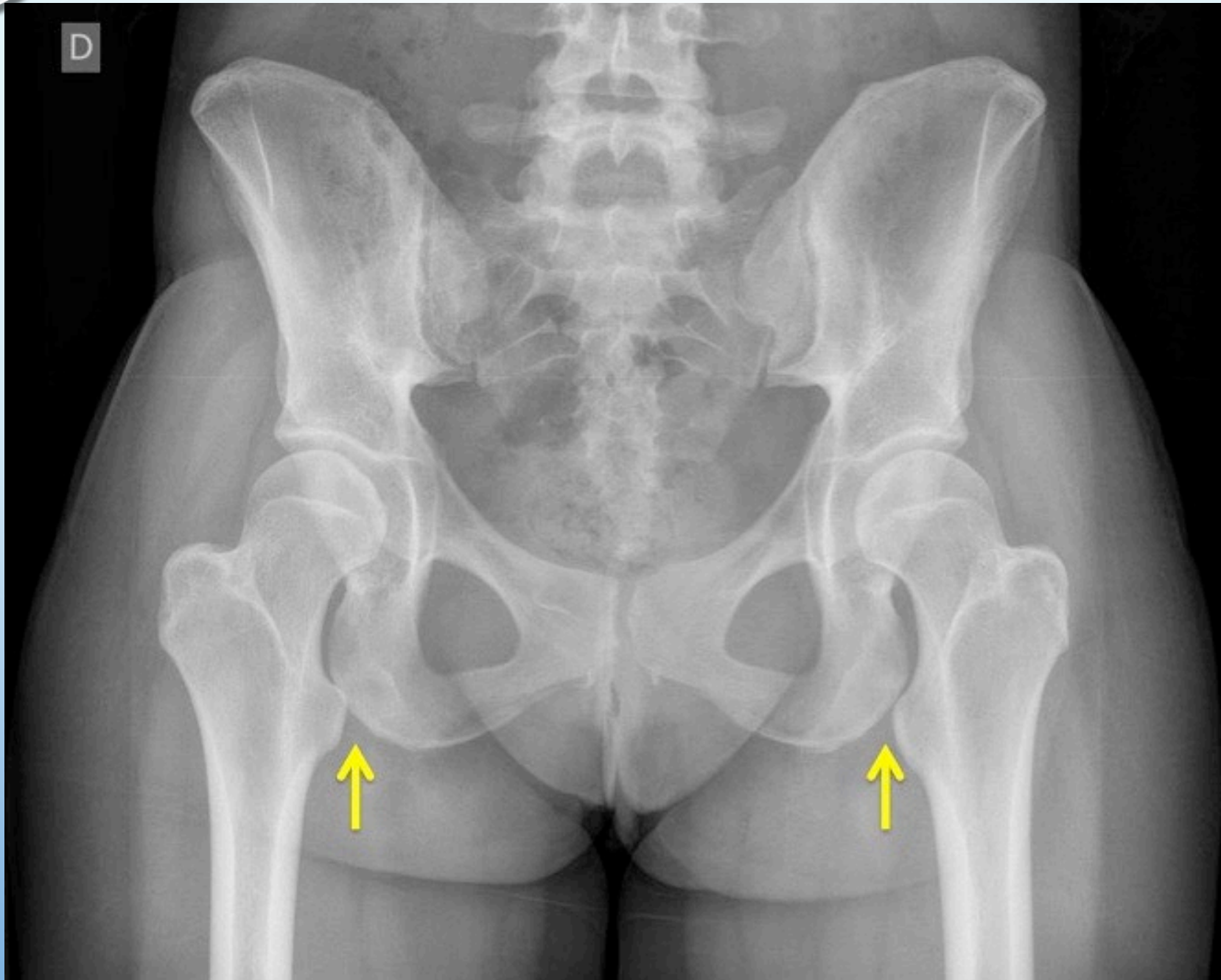


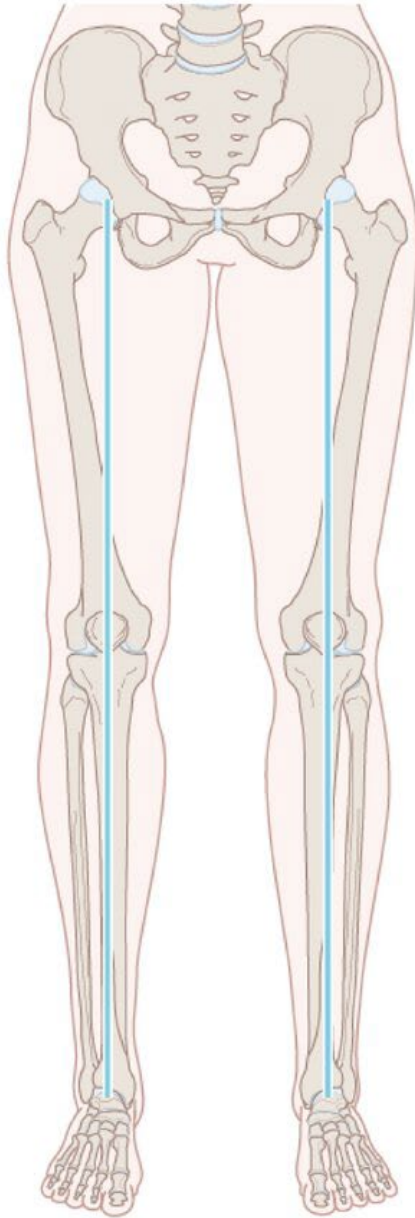




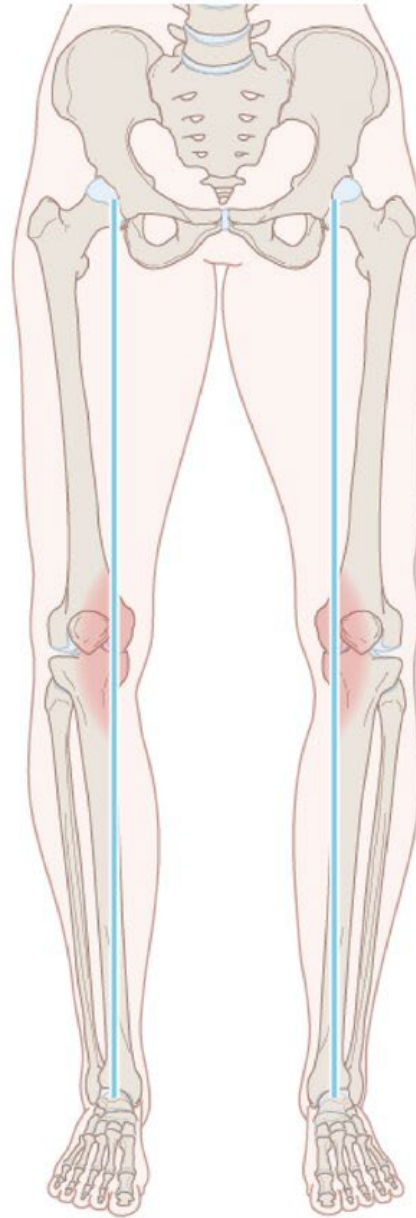




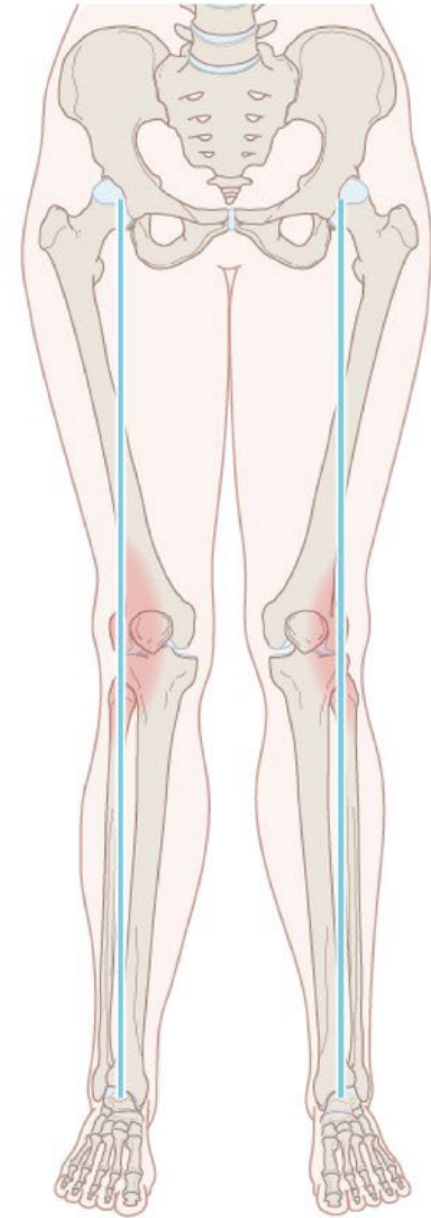




Normal



Genu varum



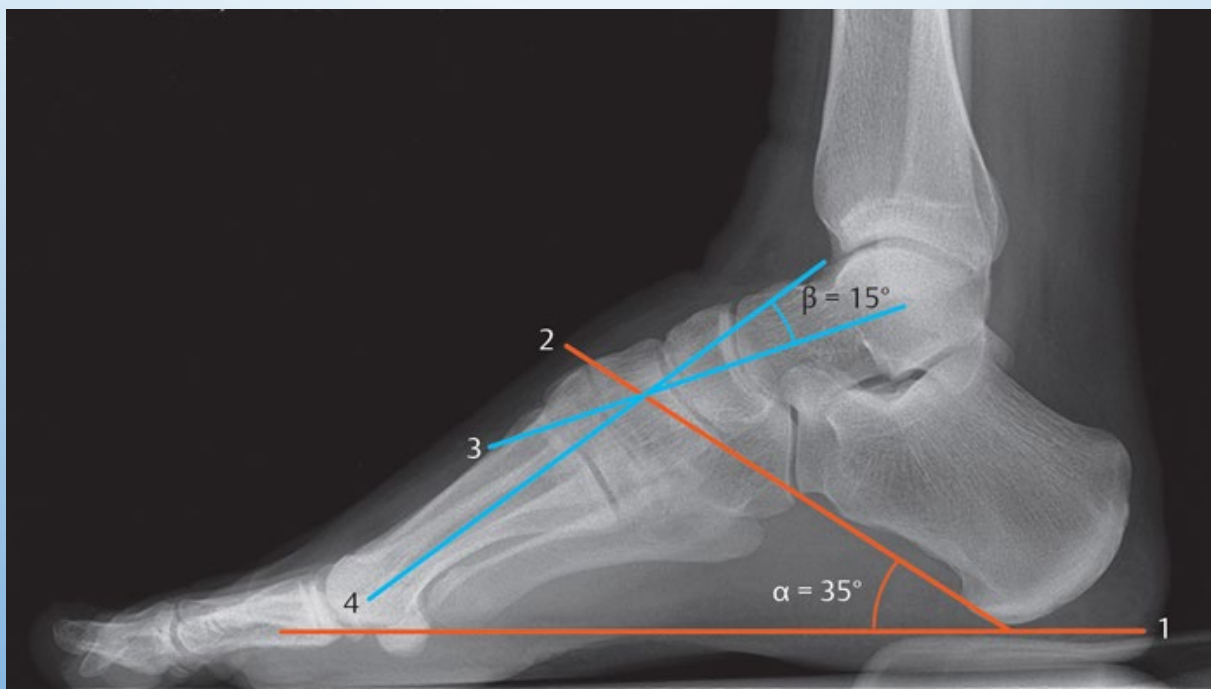
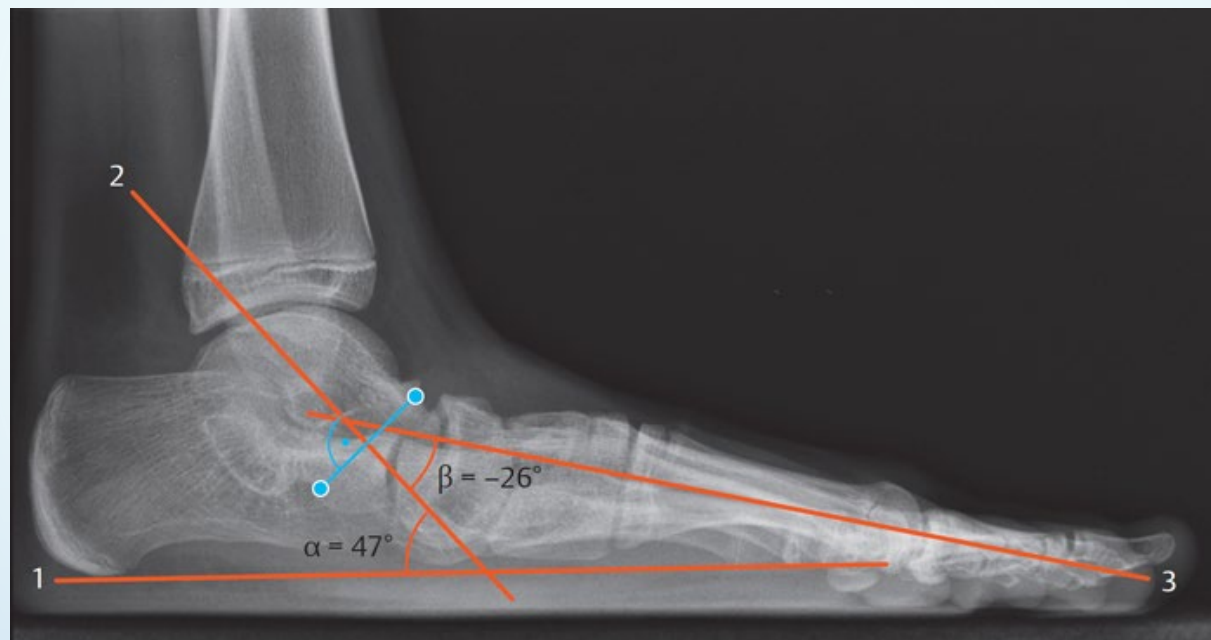
Genu valgum



Pesplanus

Not-Pesplanus





Hallux valgus



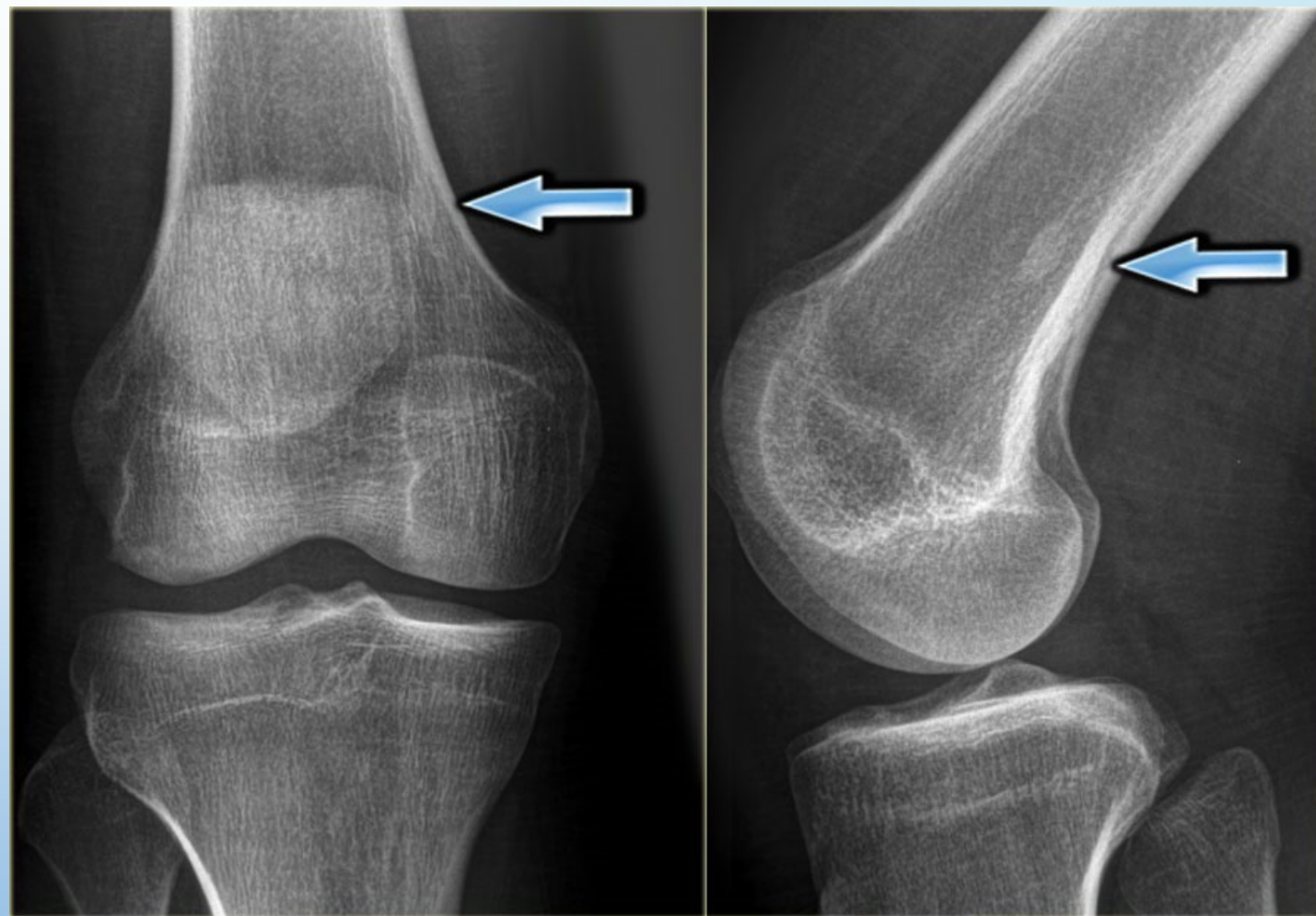
EXOSTOSIS







ENOSTOSIS : BONE ISLAND



spur





OSTEOPOROSIS

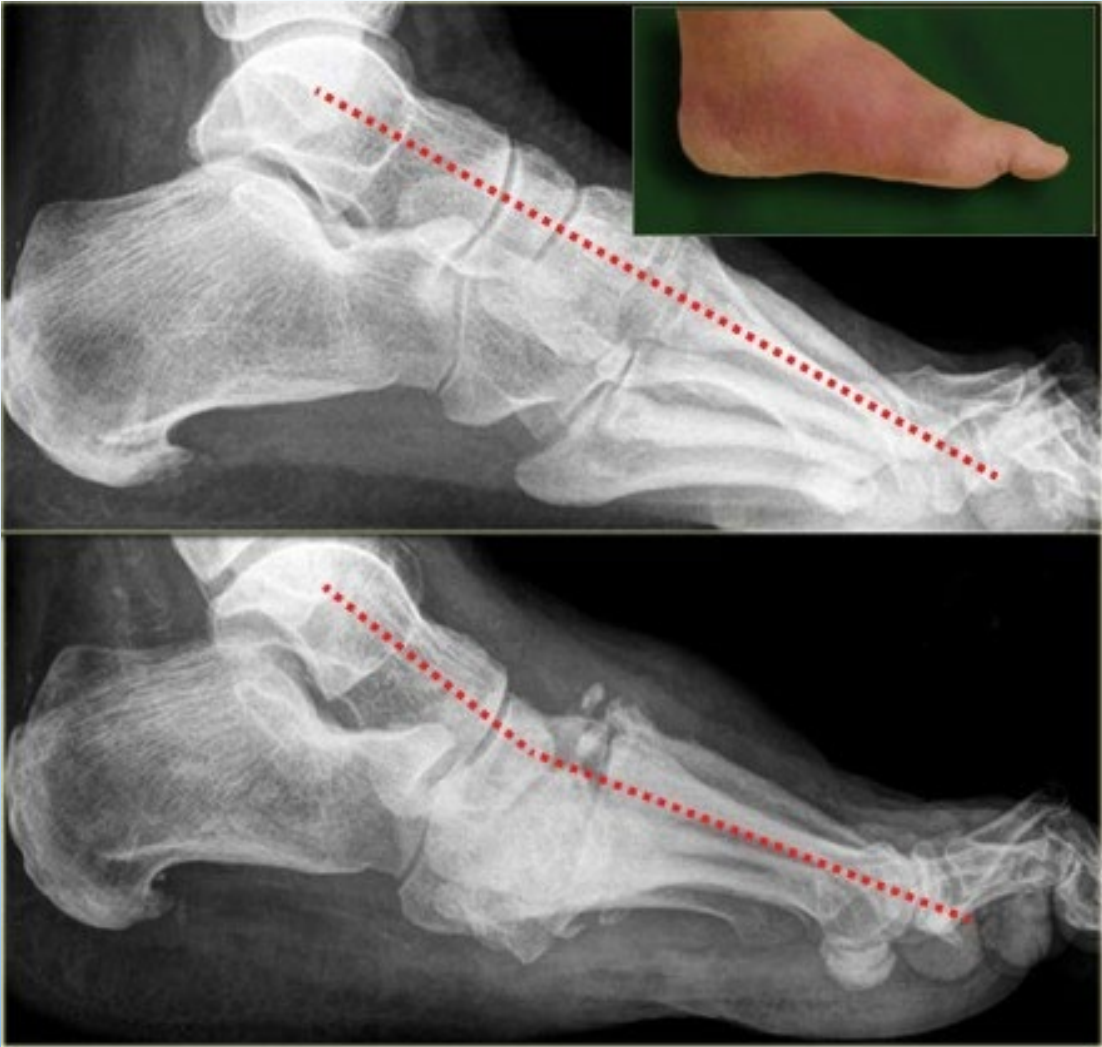


OSTEOPETROSIS



OSTEOPENIA















OSTEOARTHRITIS



RHEUMATOID ARTHRITIS





R

AP STANDING

Arthritis or not





53.436463
MAGHSODI MOHAMAD
0
7/01/29

Srs : 1
Img : 1
Acq : 1

R

KNEE R AP
018/04/18
7.7%

10
kV : 67
mAs : 16
Dose : 588.00 mGycn
EI : 241
OP : Gues

ISABNE MARYAM HOSPITA

Arthritis or not





Normal
joint space



Figure 1

Narrowed joint
space from loss
of cartilage

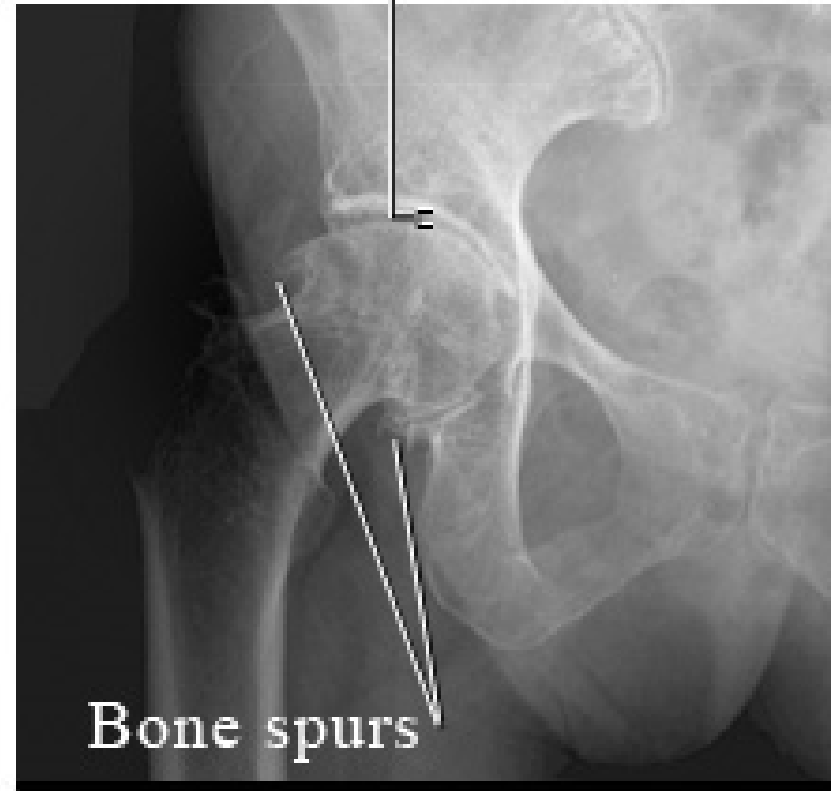
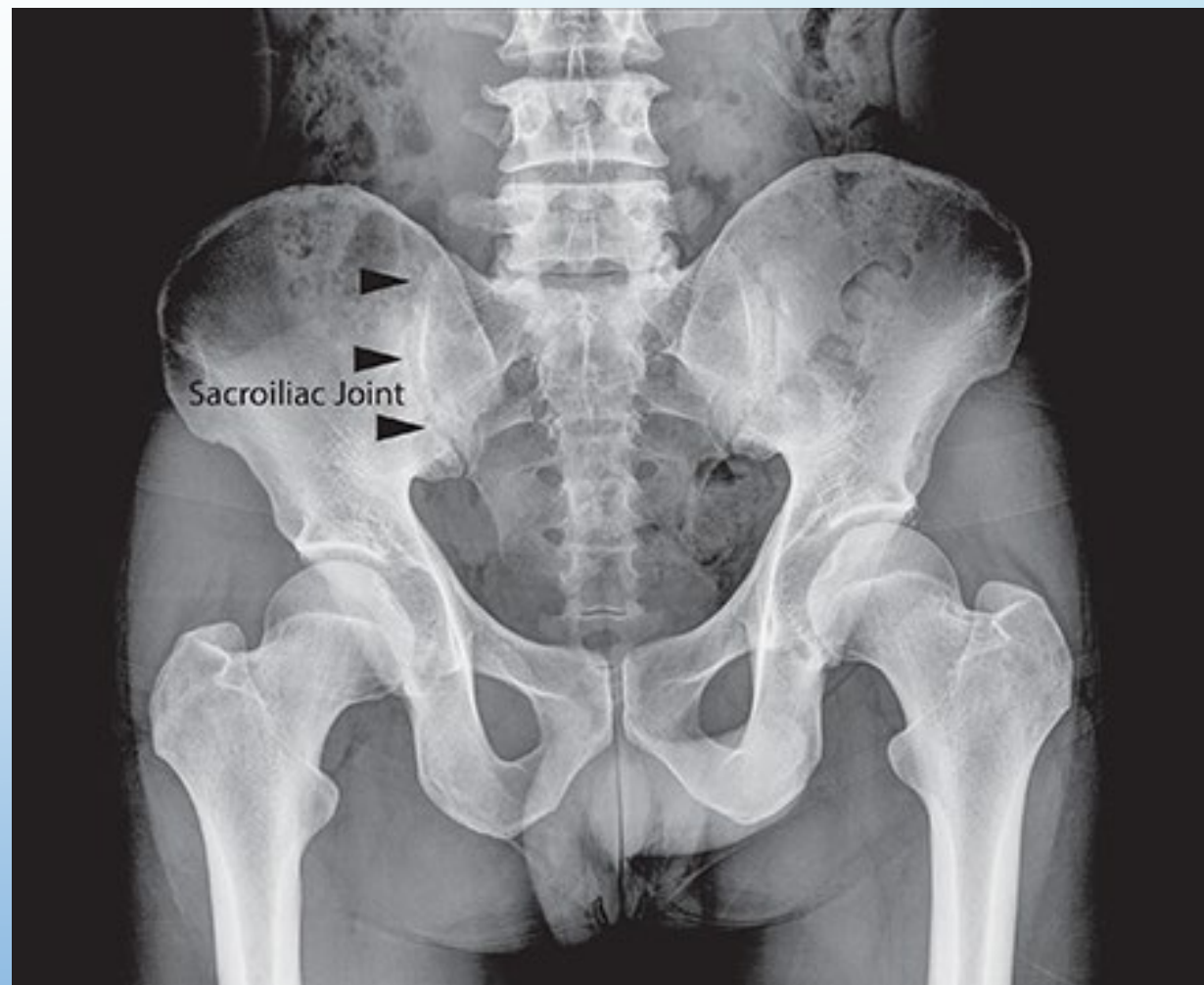
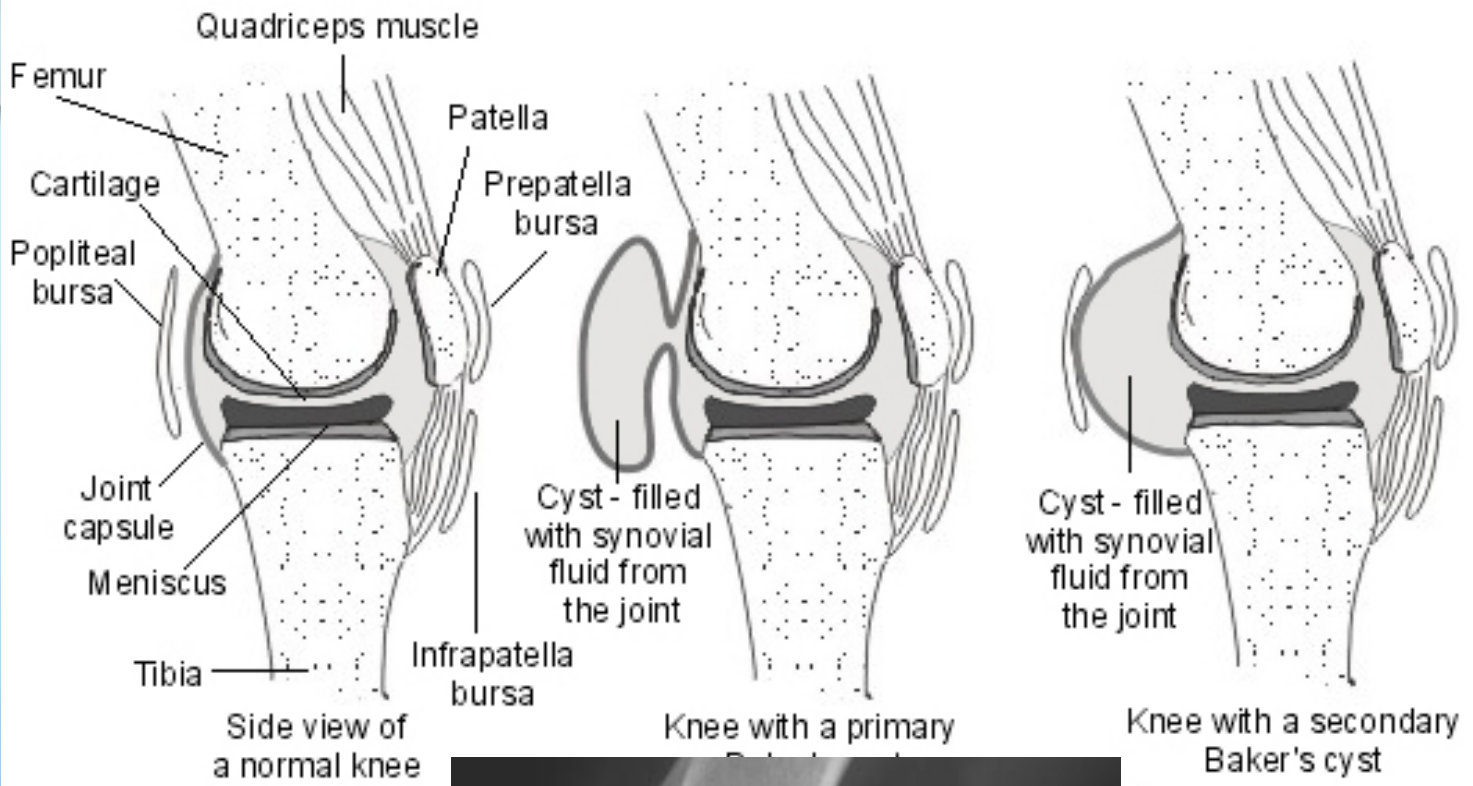


Figure 2











GOUT



Normal foot



Figure 1

Gout in toe

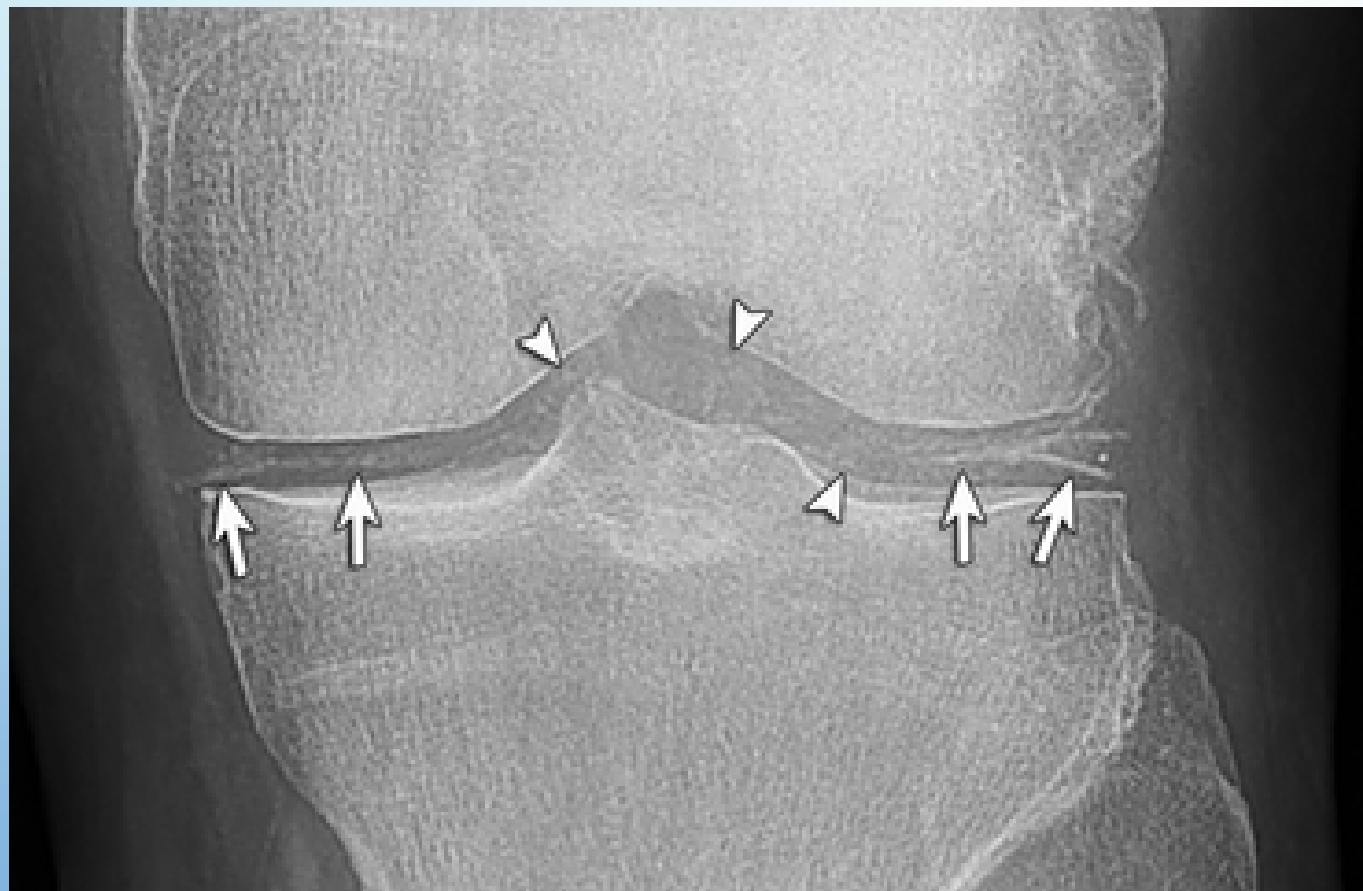


Figure 2

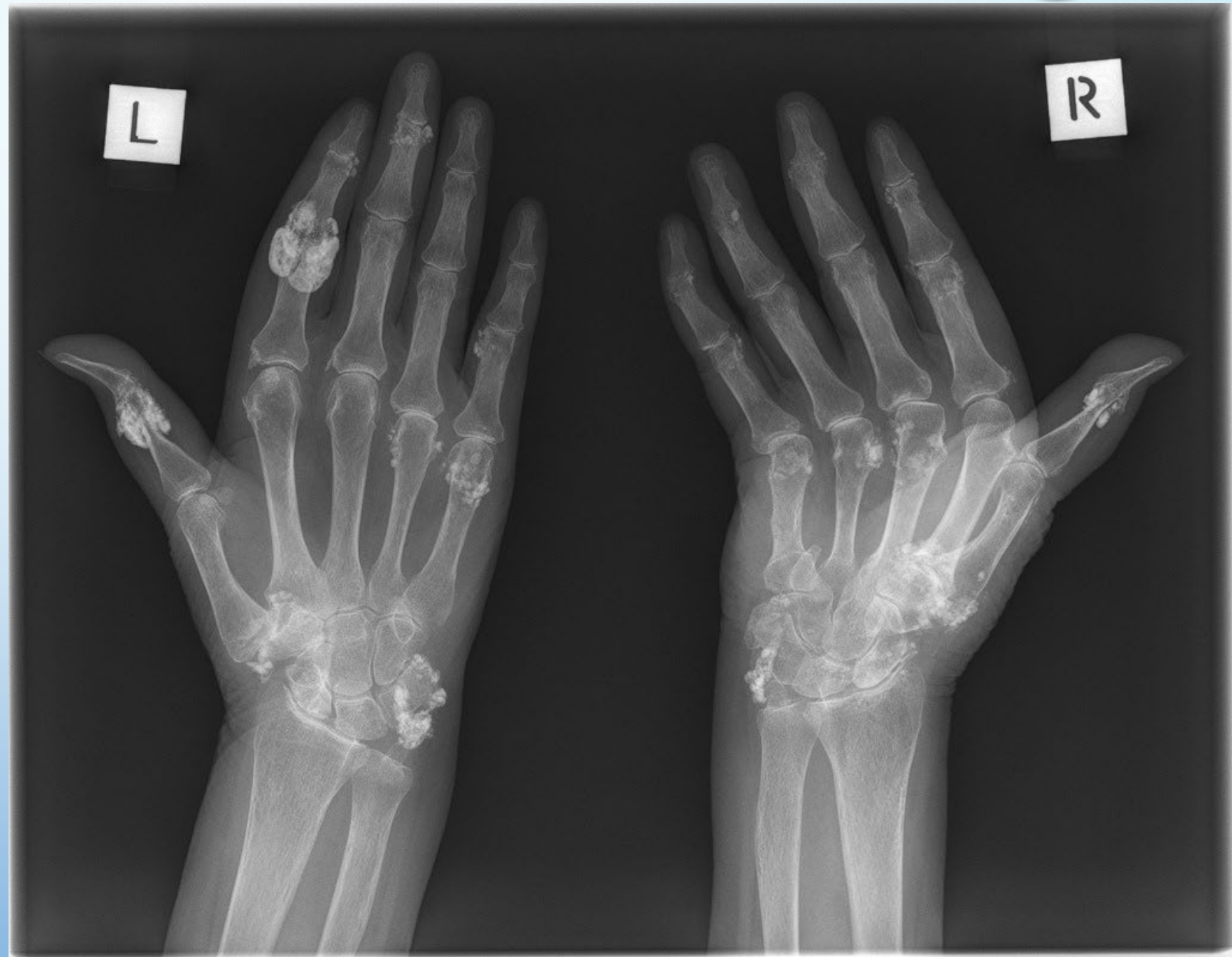


CHONDROCALCINOSIS





SCLERODERMA

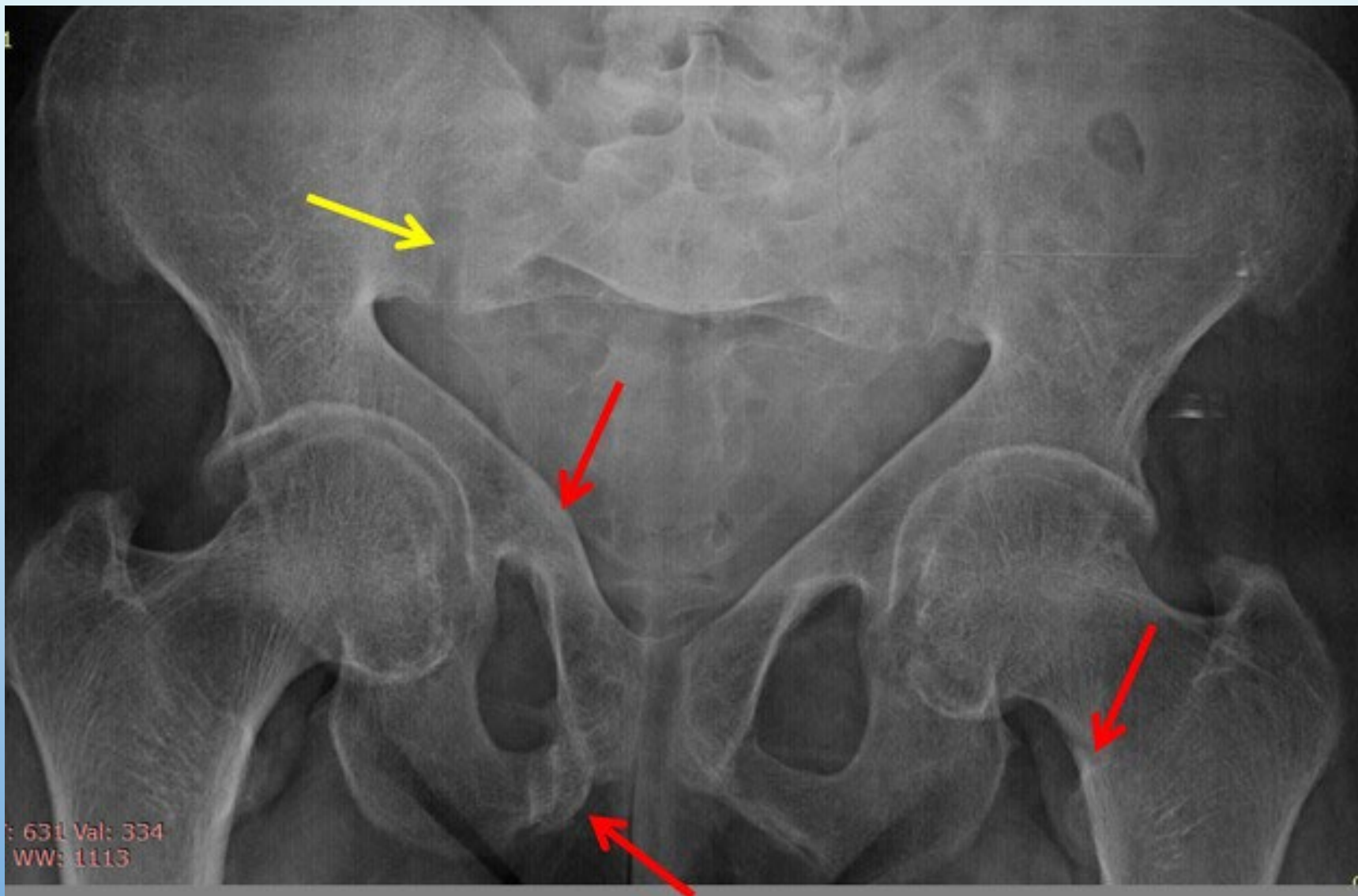




RICKETS



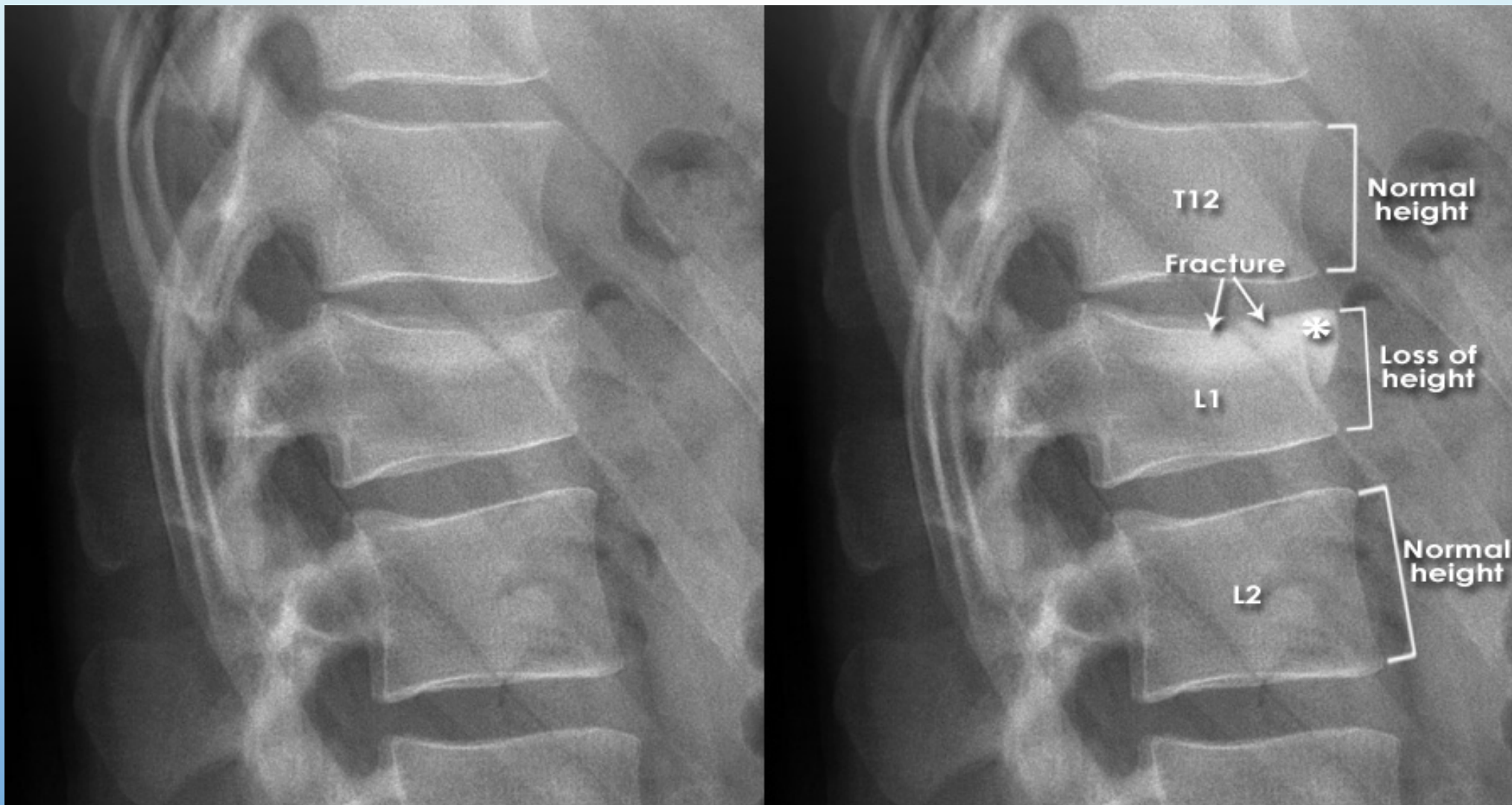
OSTEOMALACIA

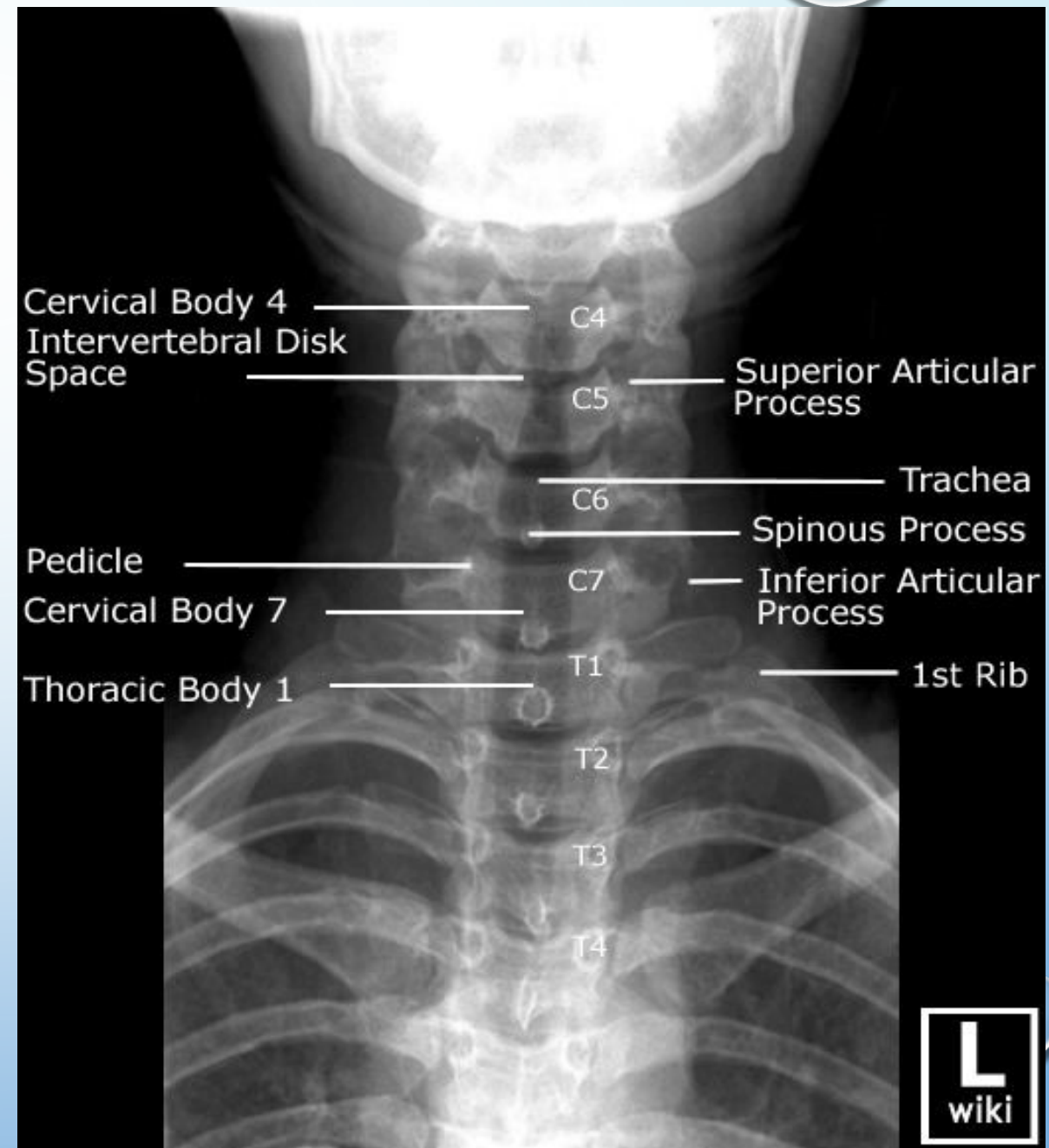
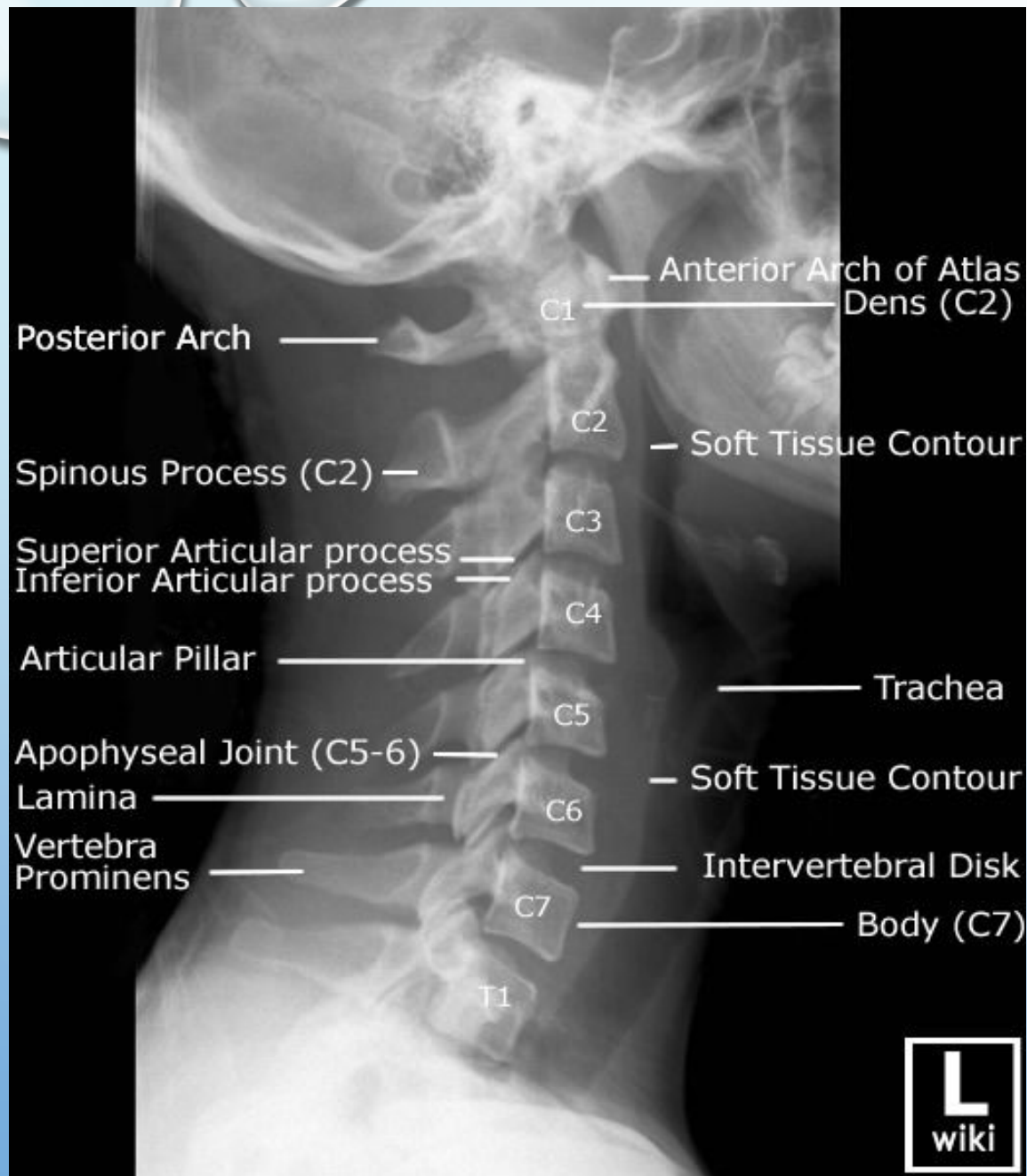


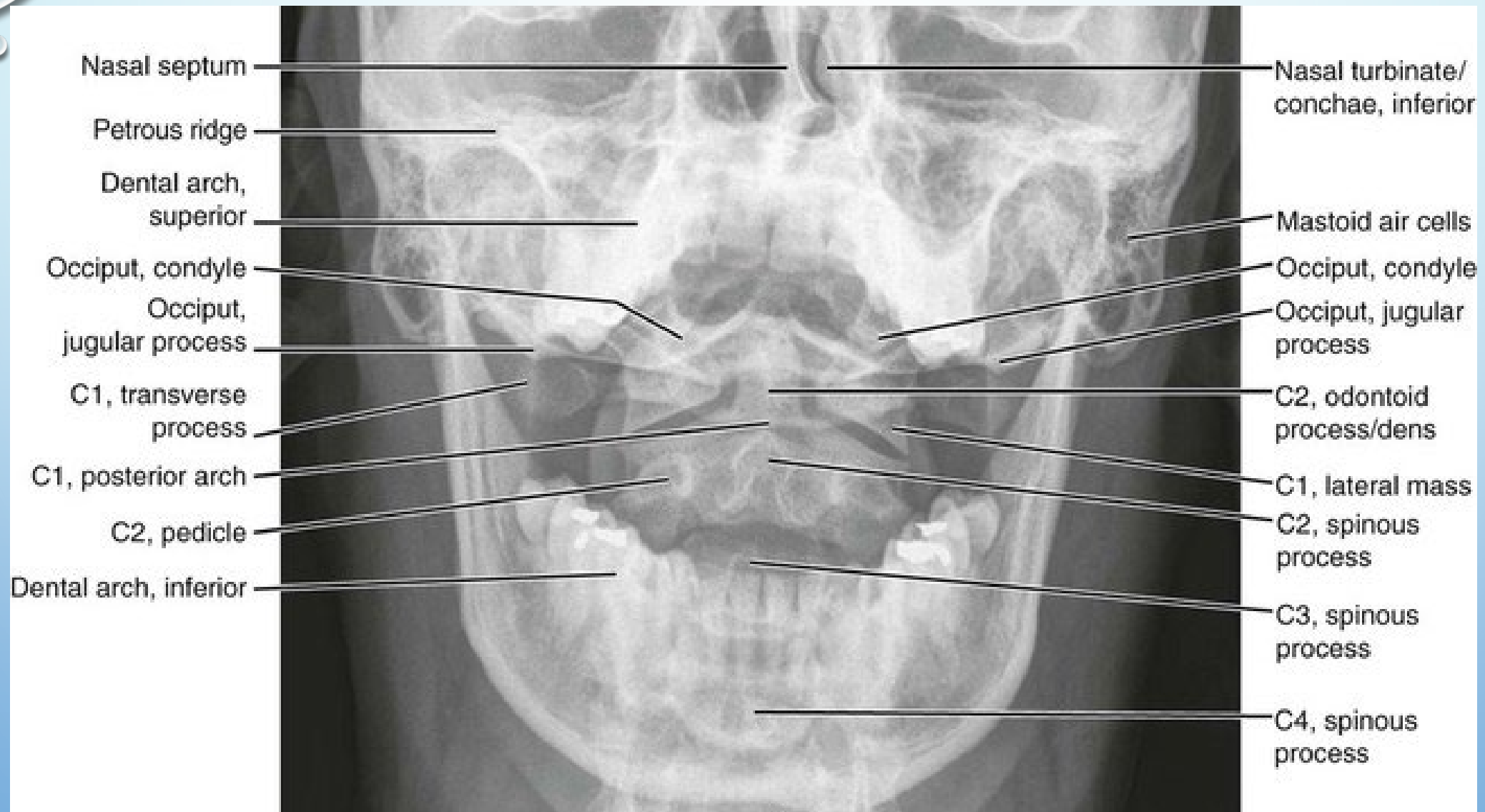
VERTEBRAL COLUMNS

ستون فقرات



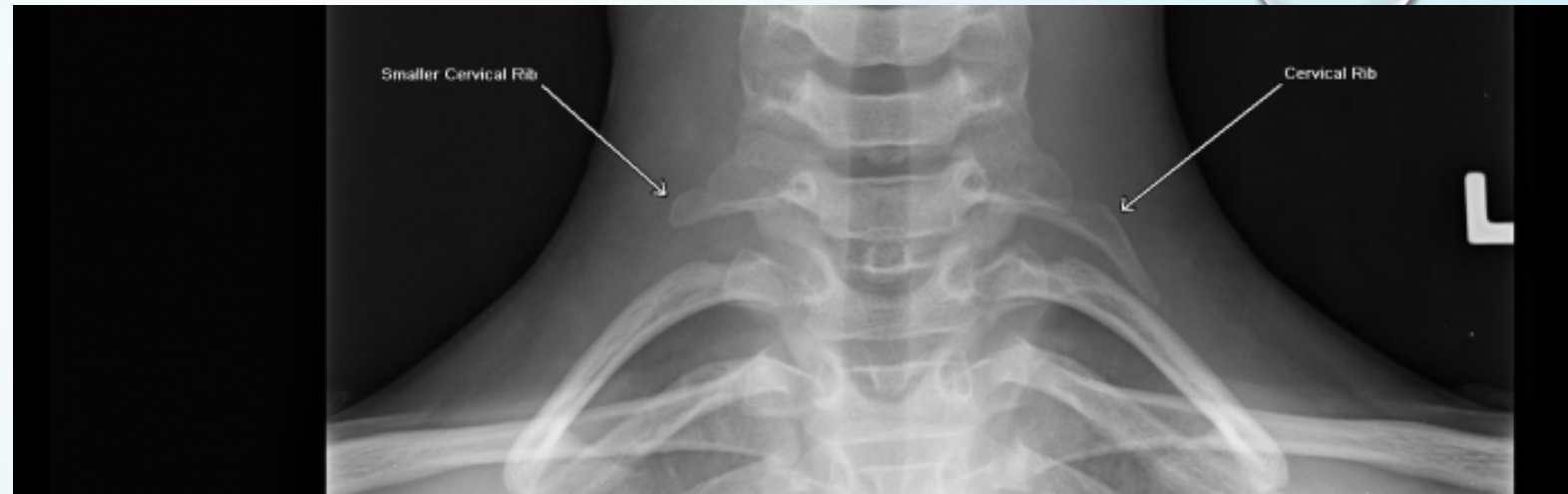


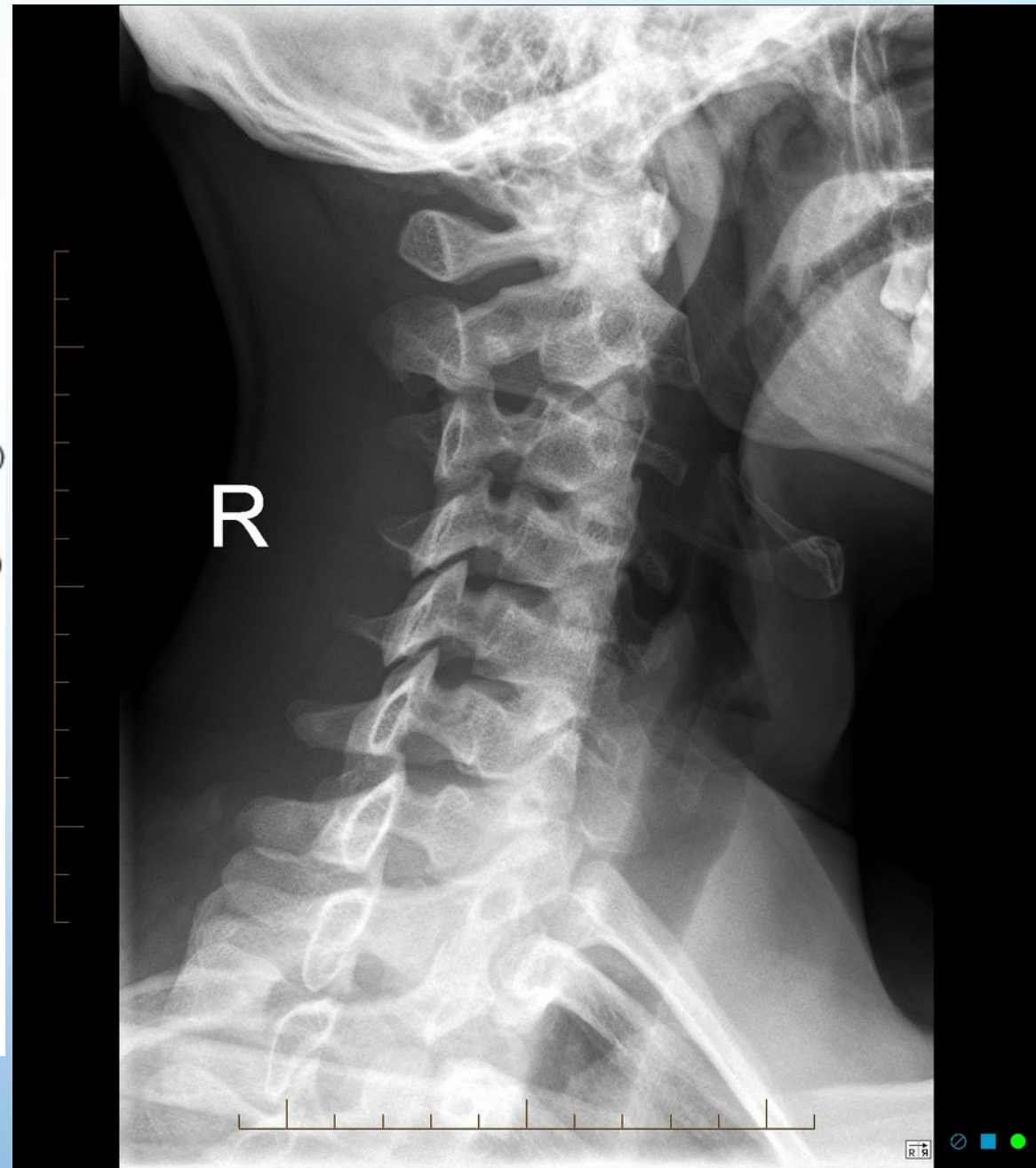
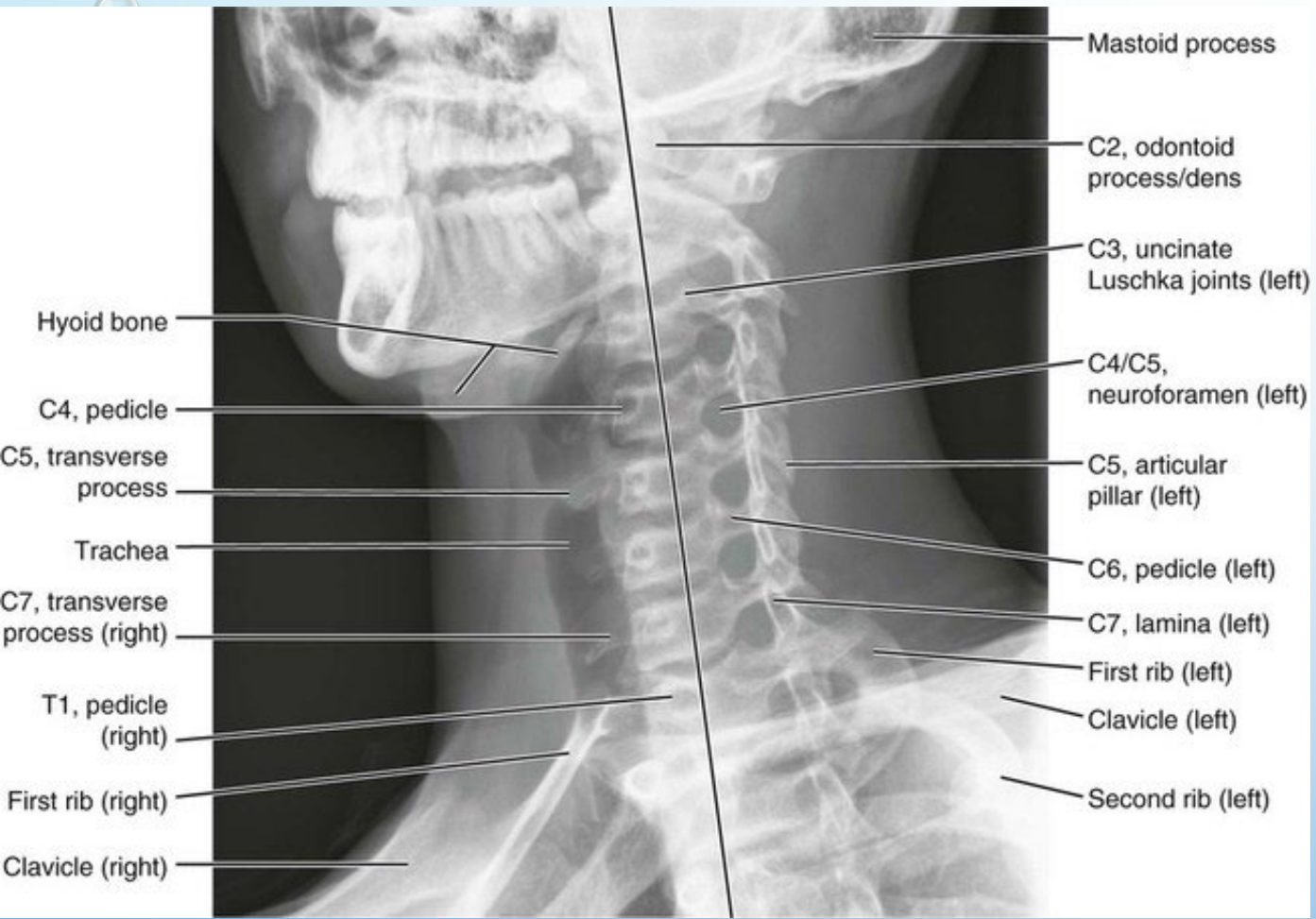


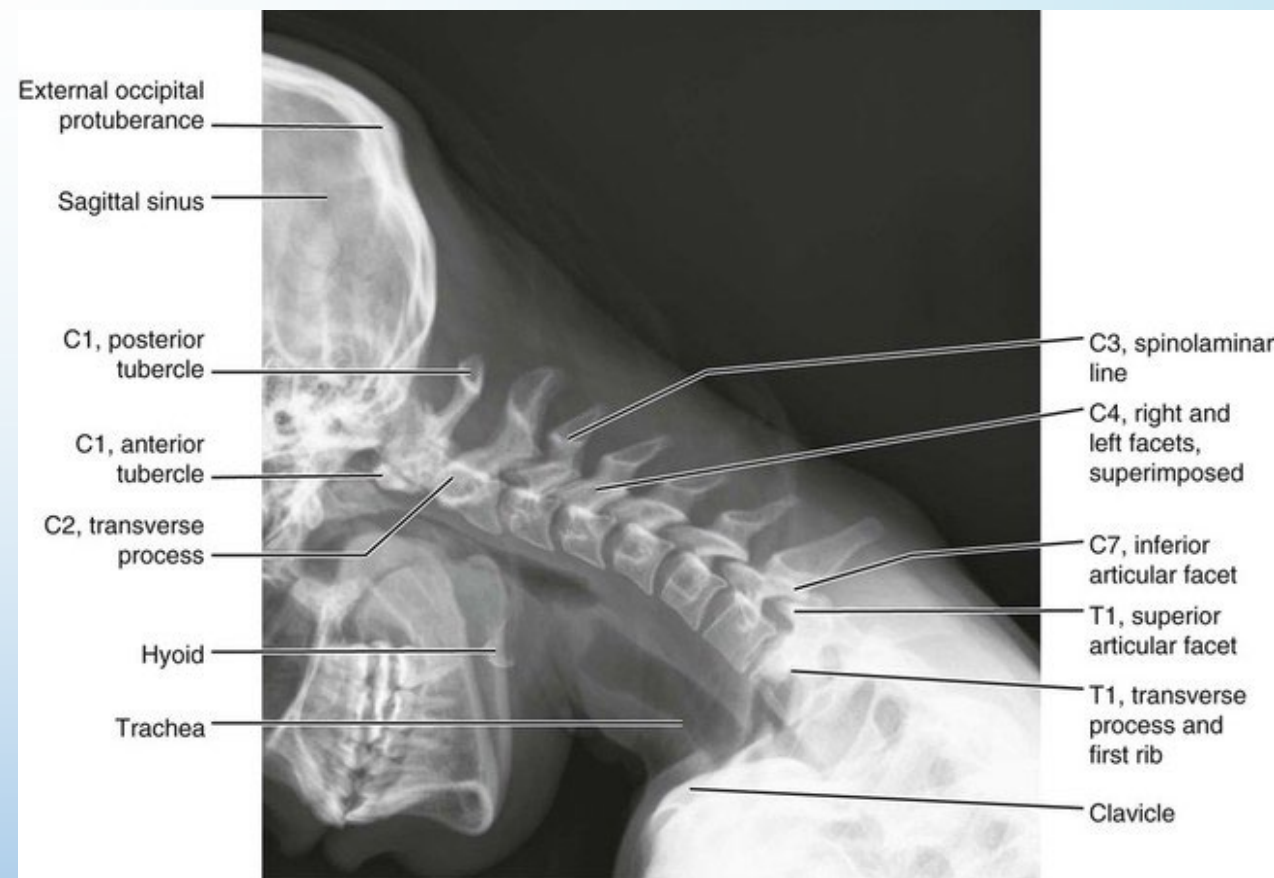
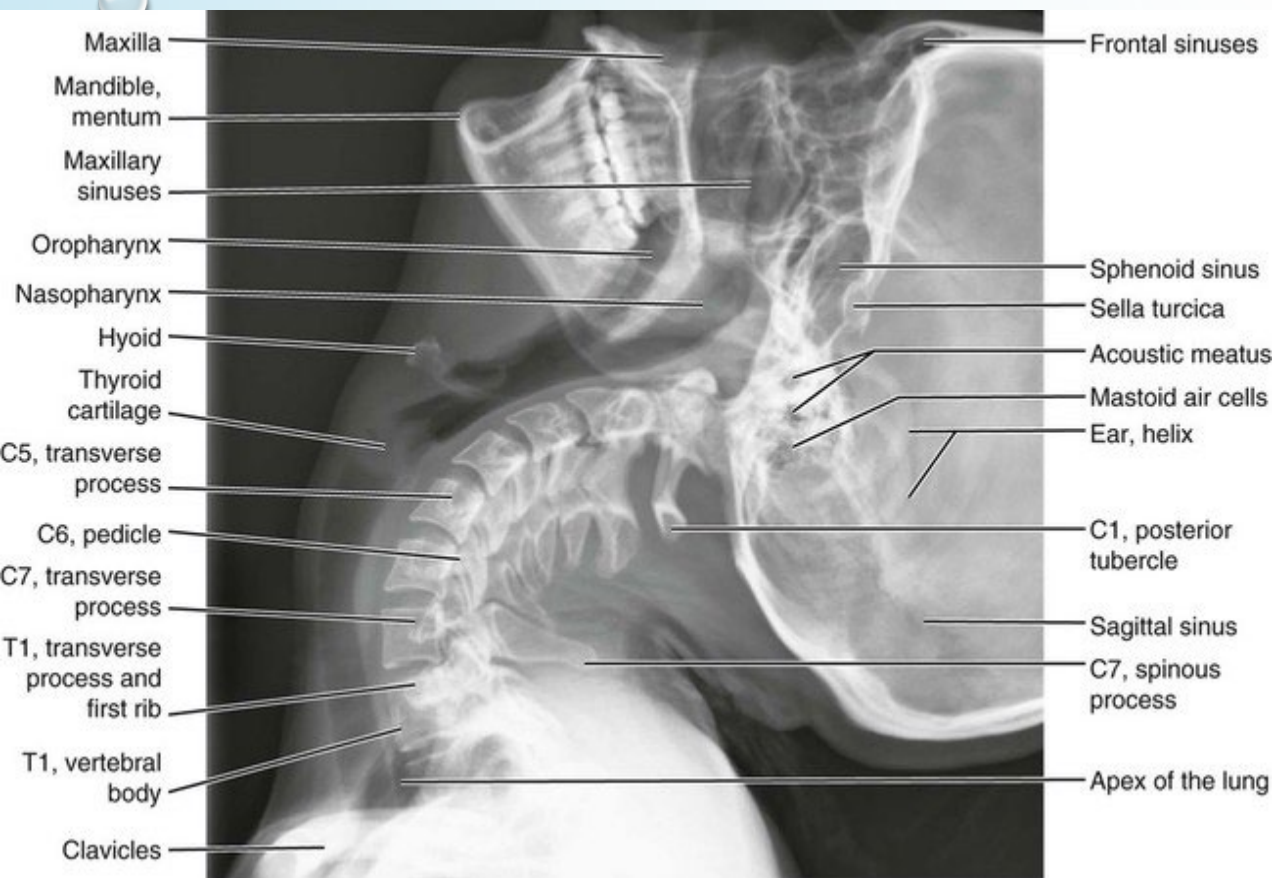




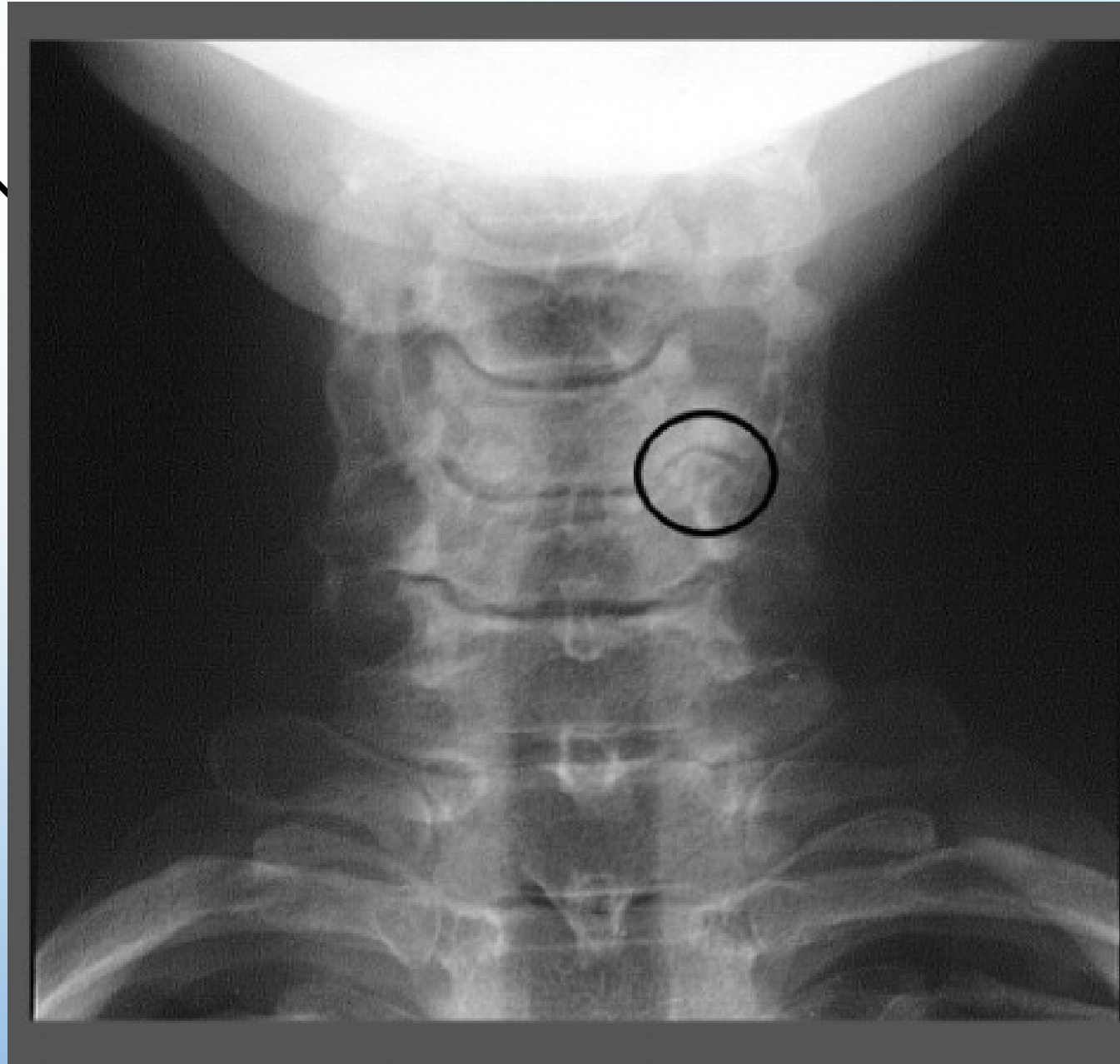
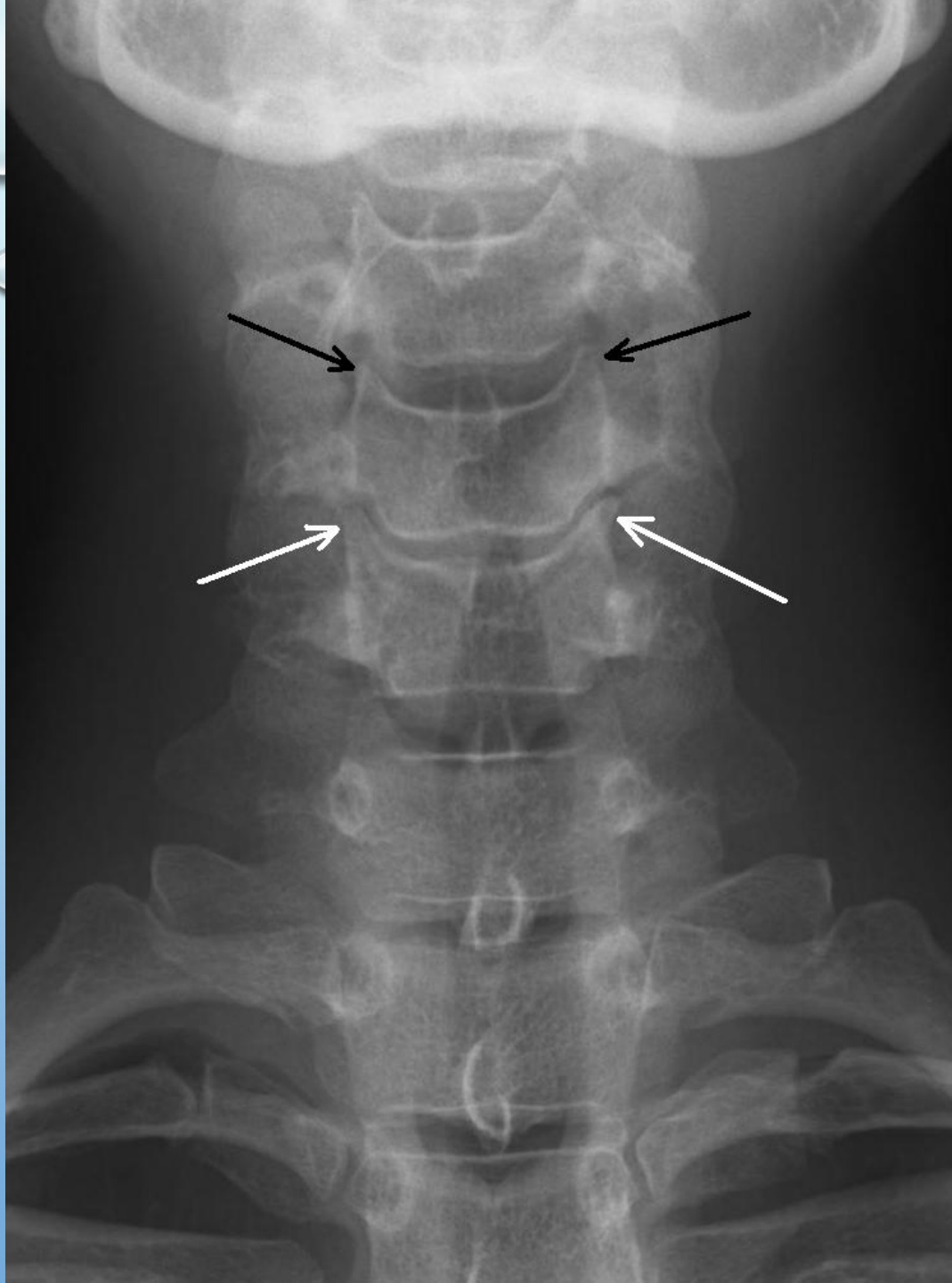












W

ARD



صفر درجه
۴ تا ۵/۵ کیلوگرم



۱۵ درجه
۱۲ کیلوگرم



۳۰ درجه
۱۸ کیلوگرم

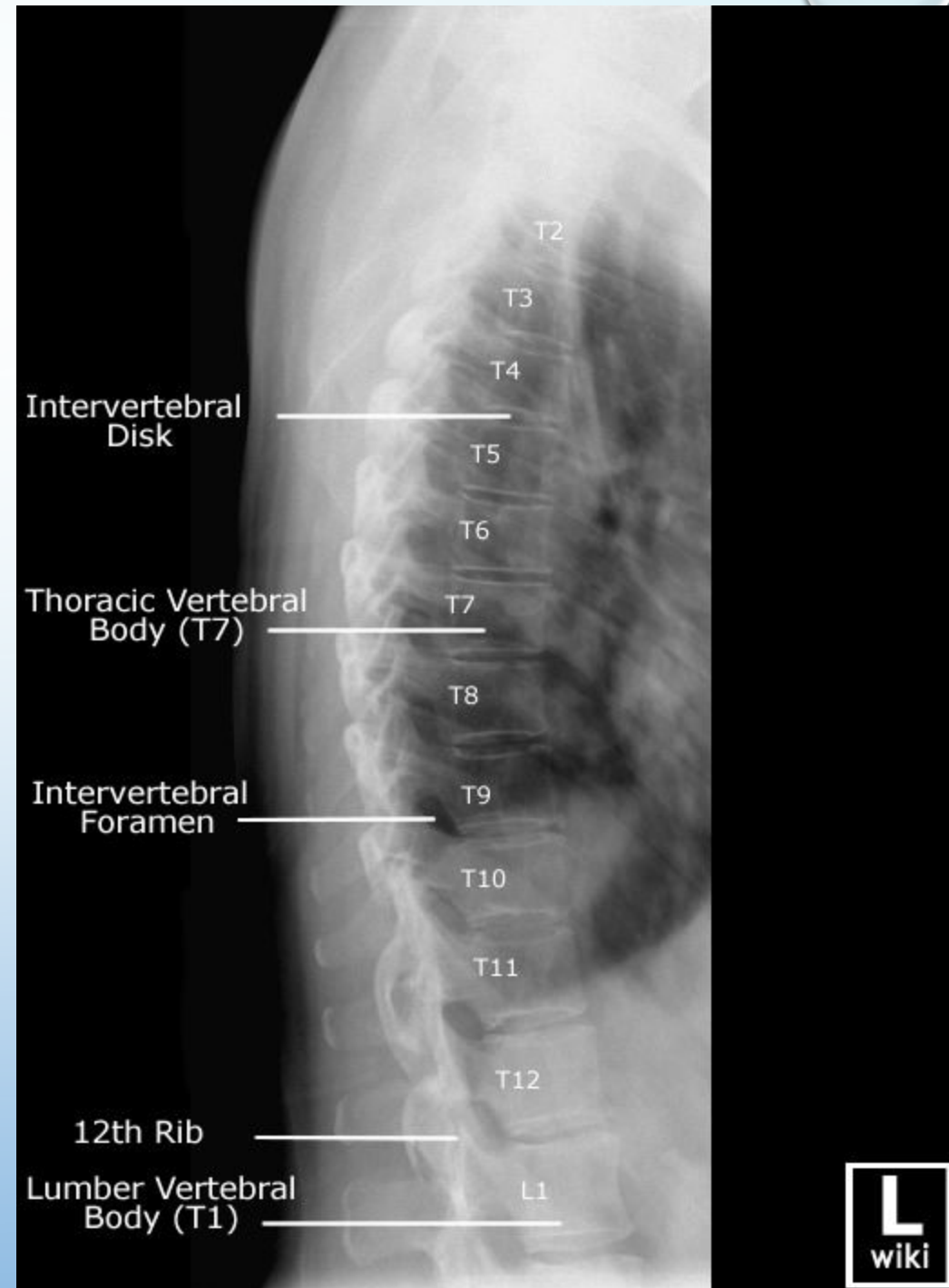
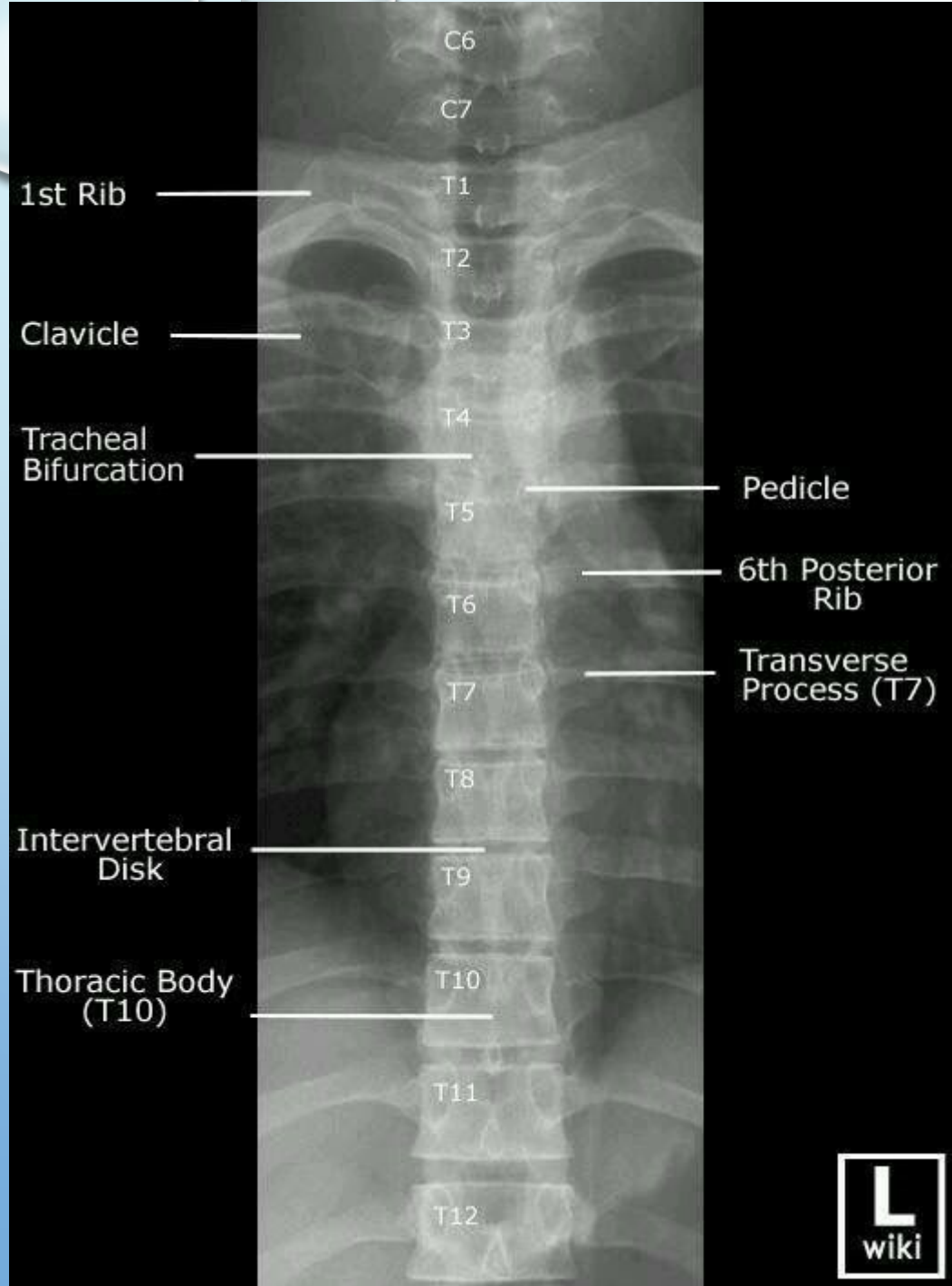


۴۵ درجه
۲۲ کیلوگرم



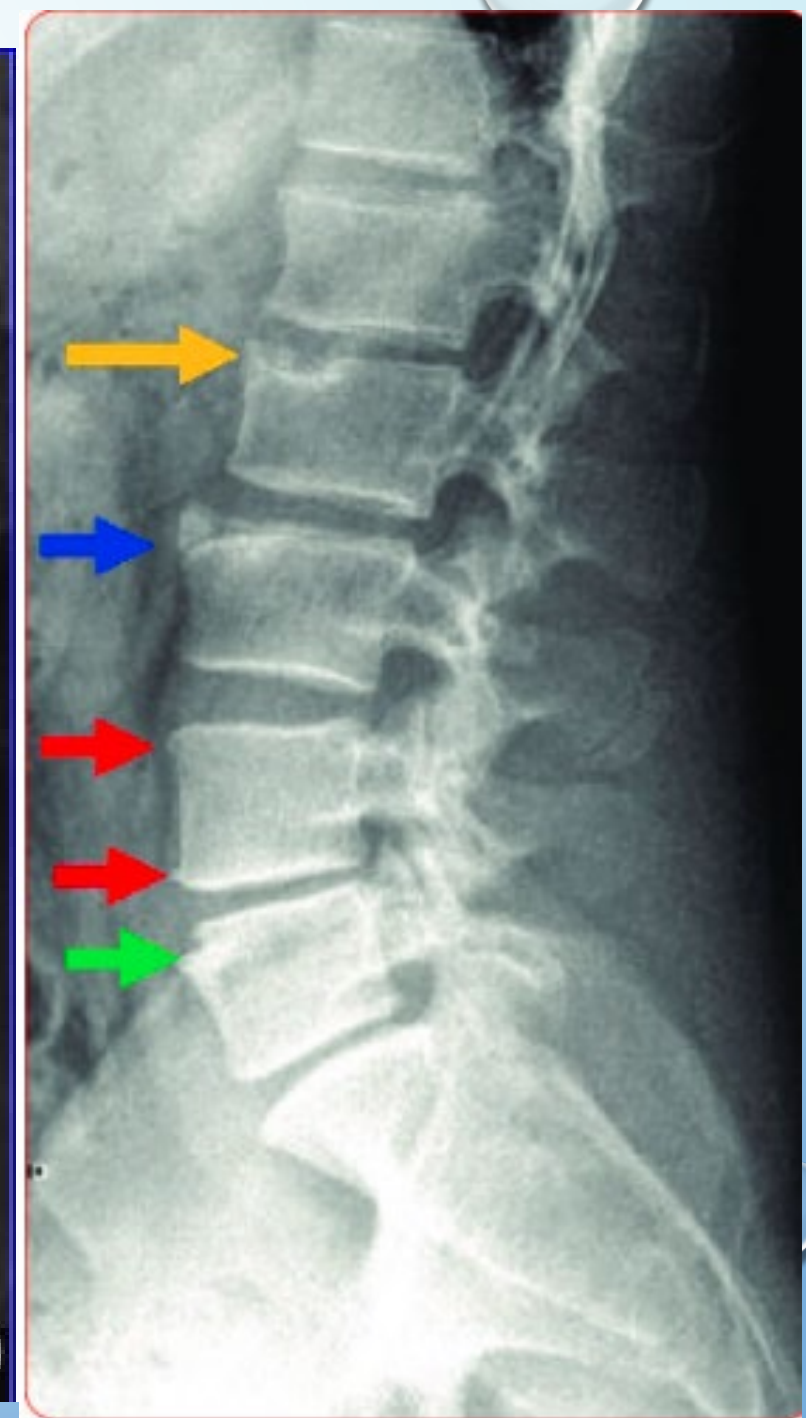
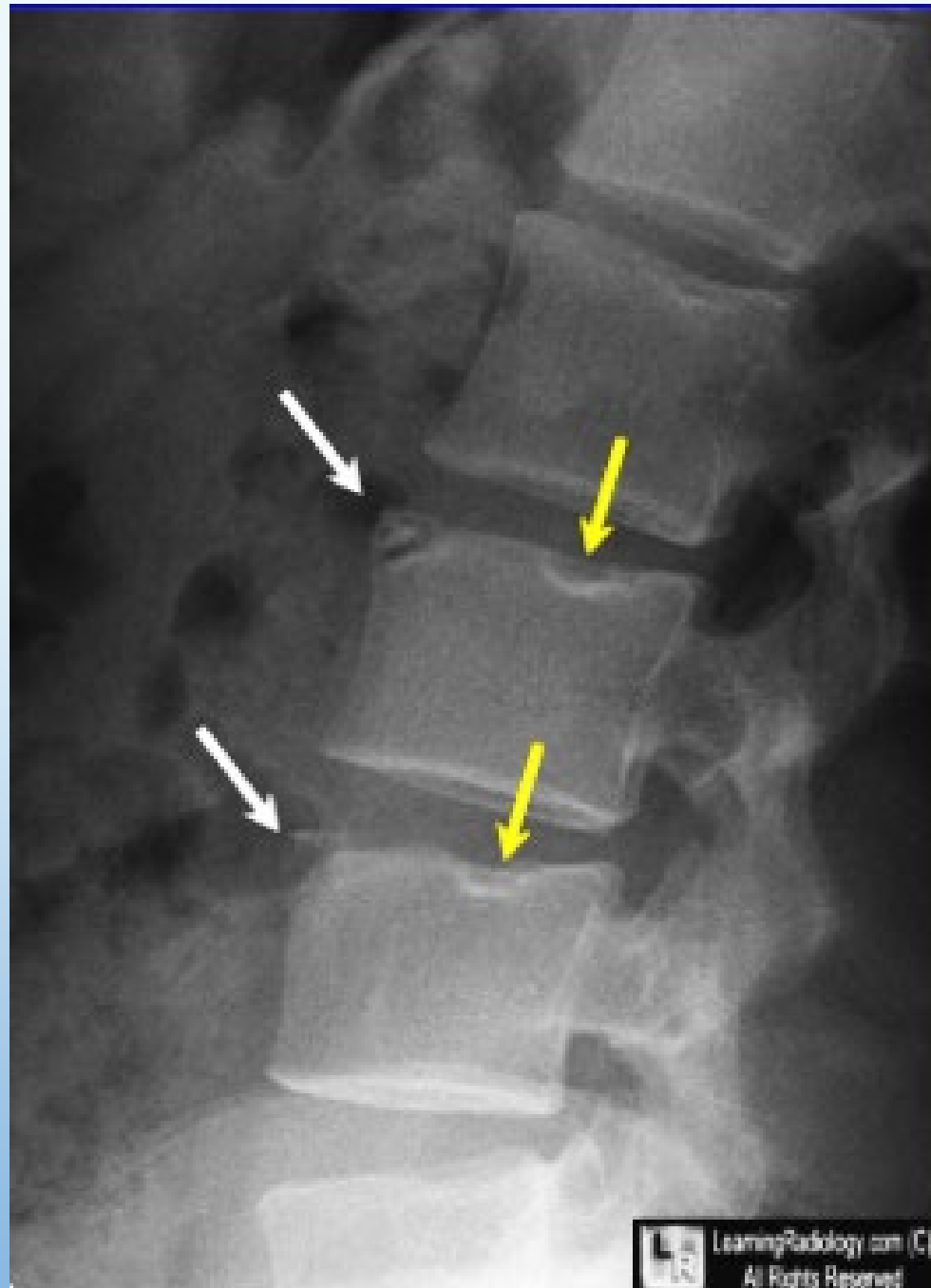
۶۰ درجه
۲۷ کیلوگرم

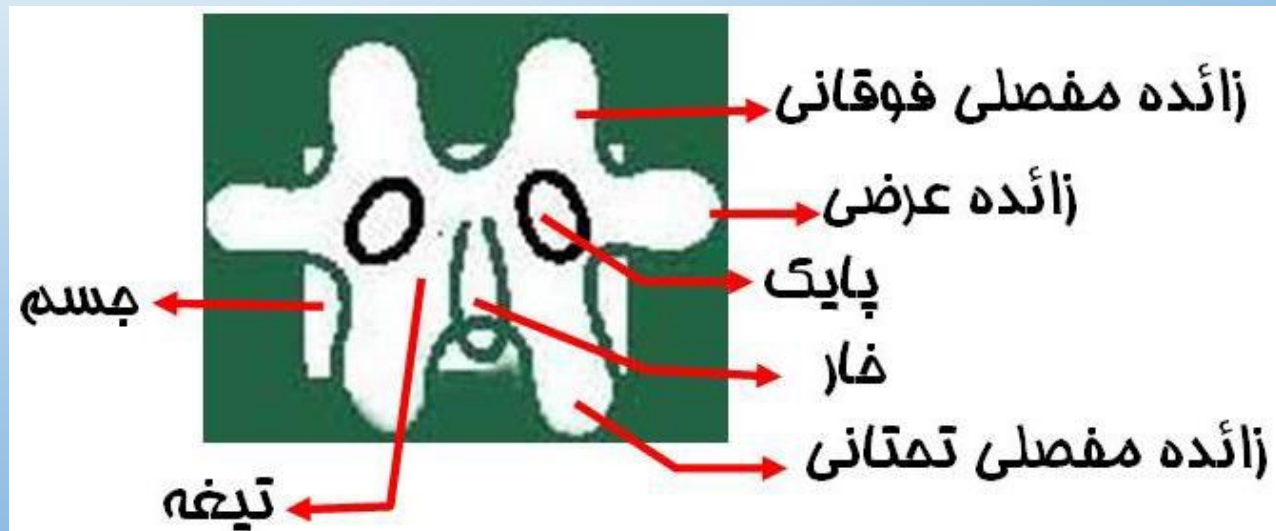






SCHMORL'S NODE





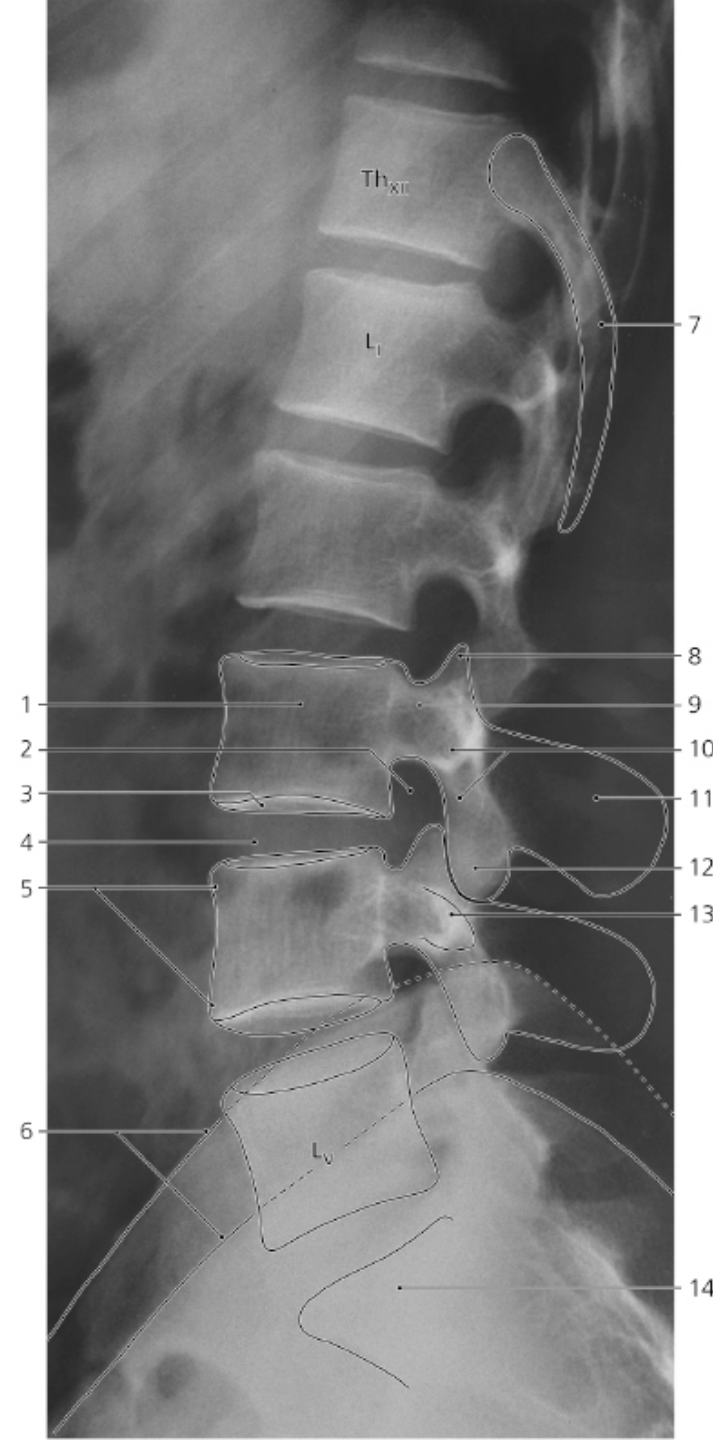
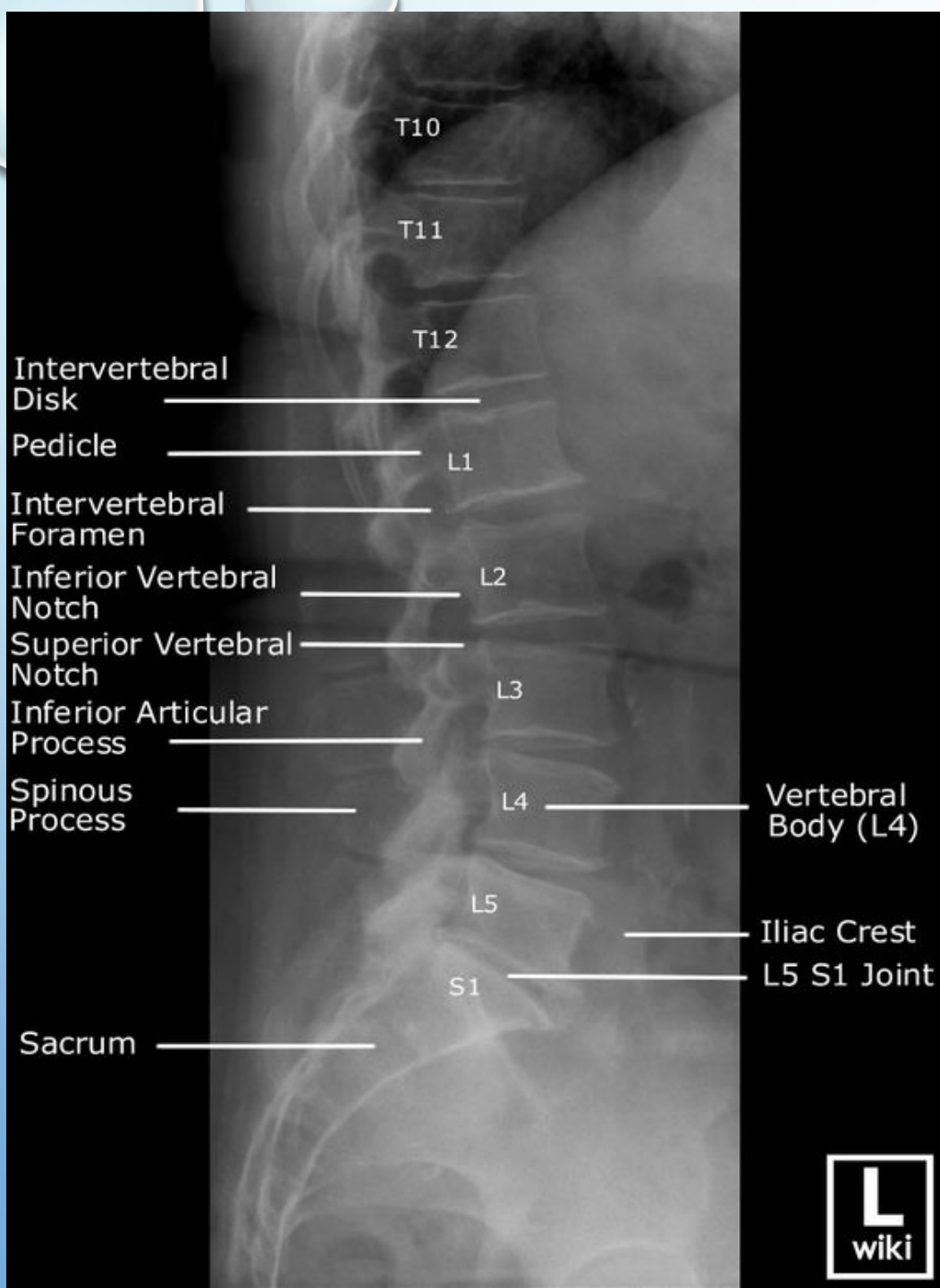


LUMBARIZATION

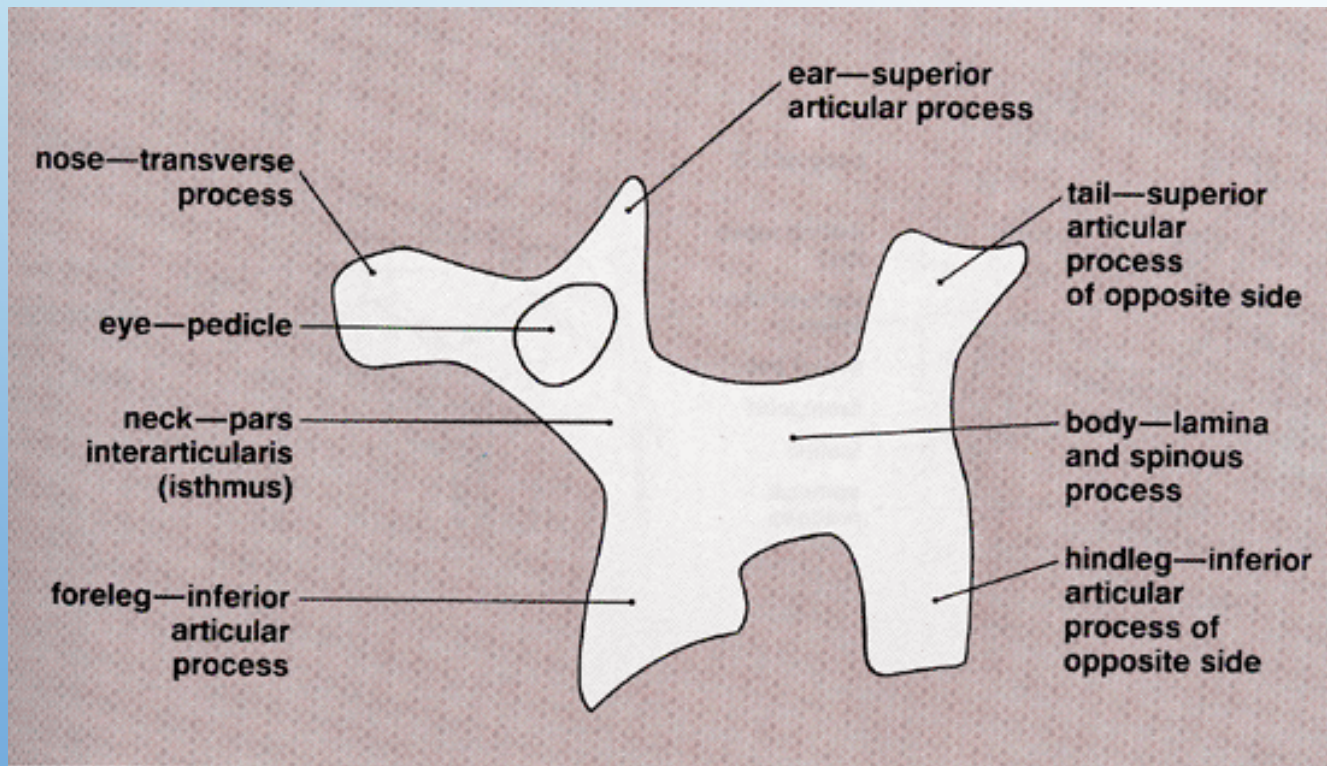


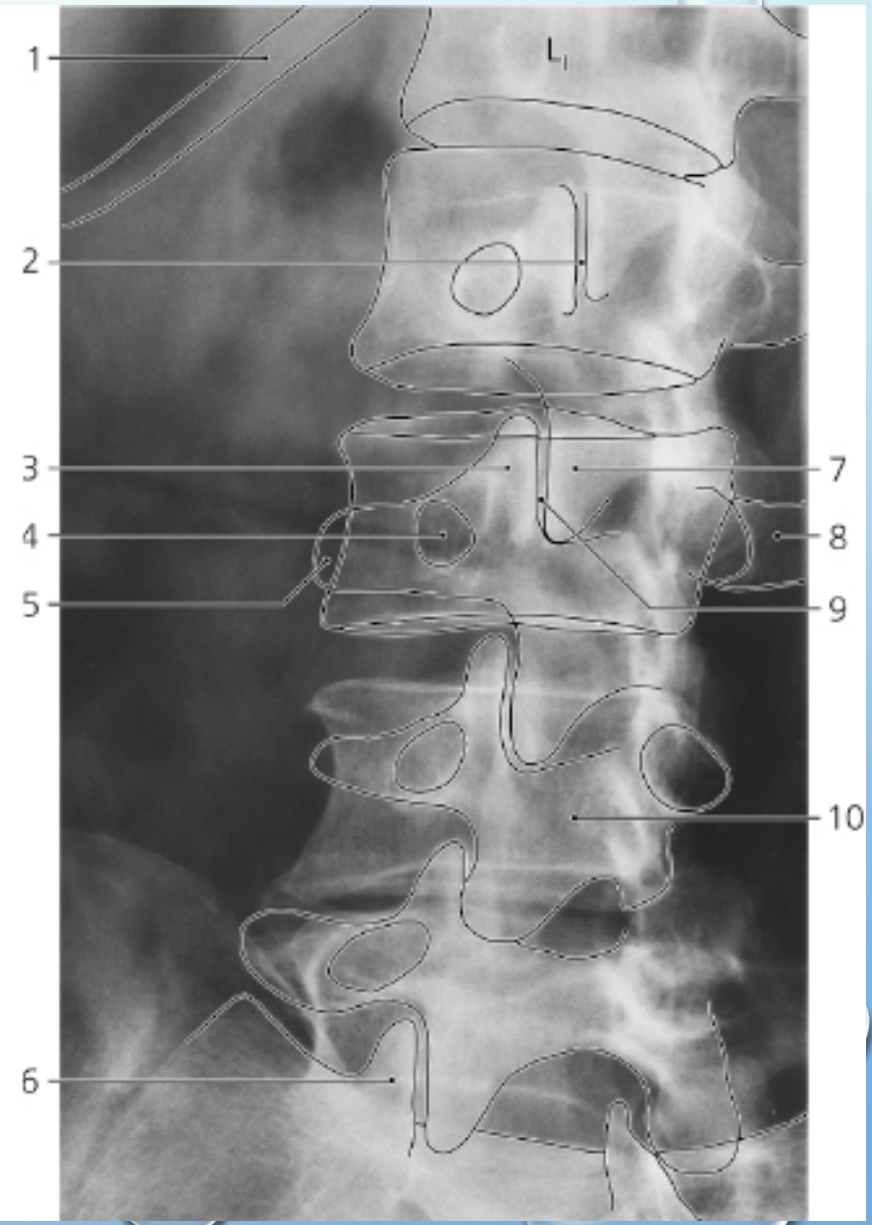
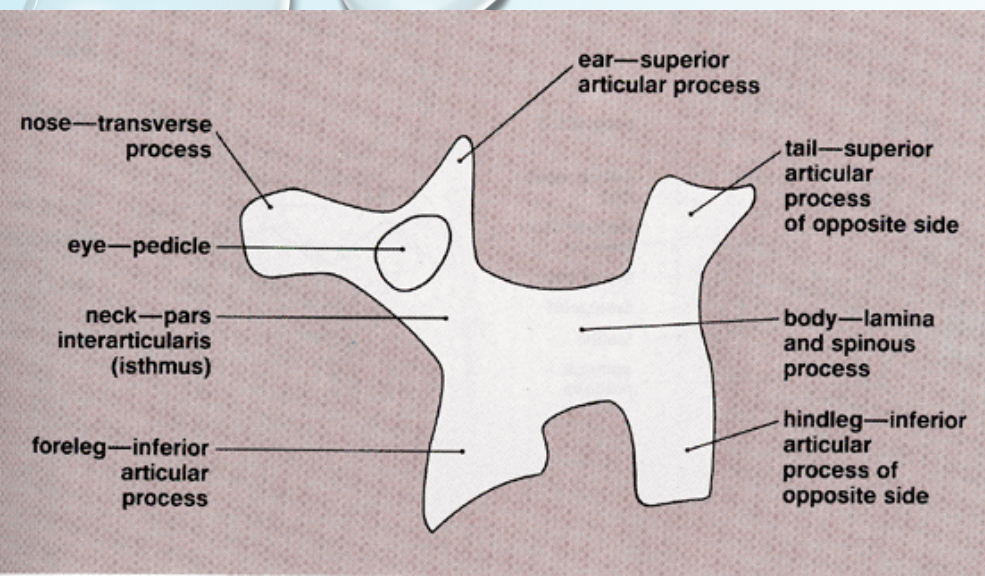
SACRALIZATION

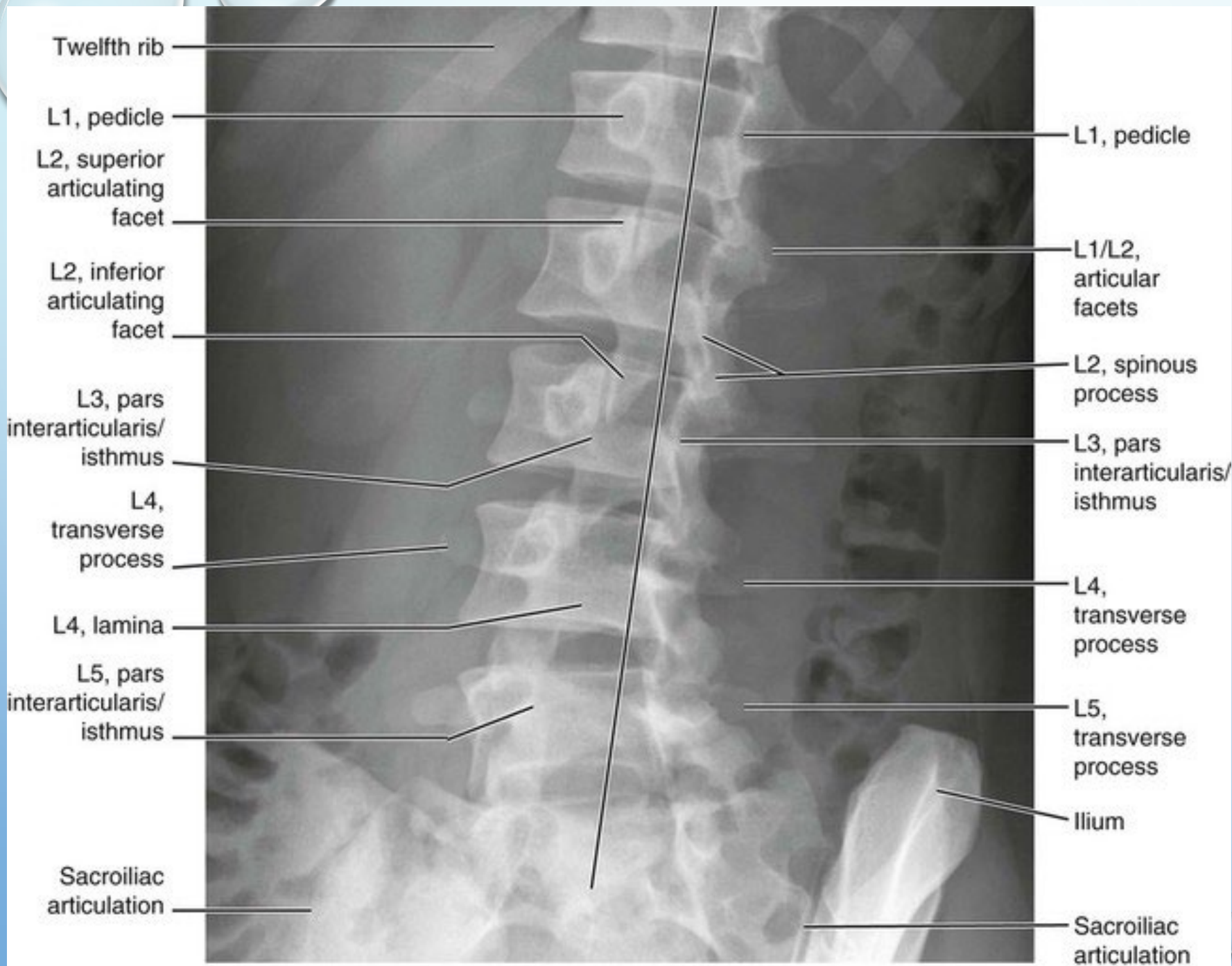




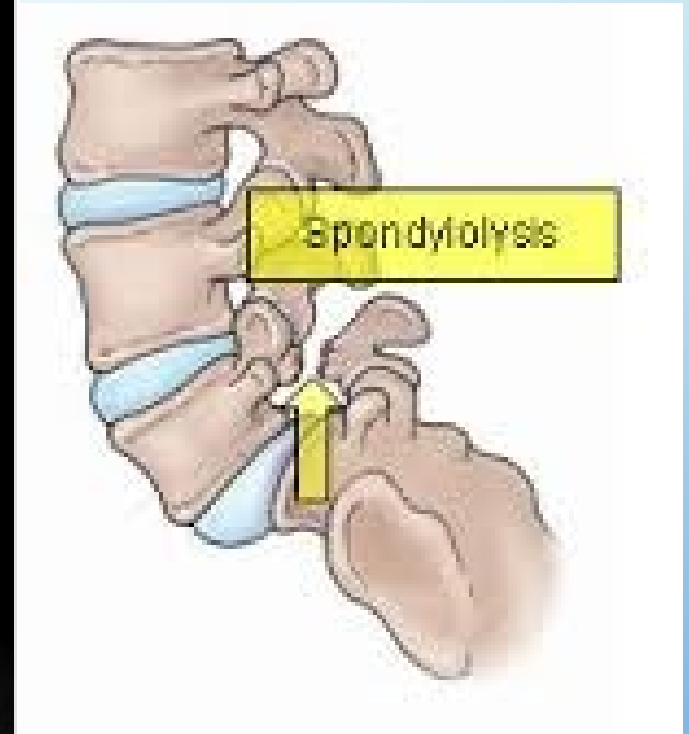
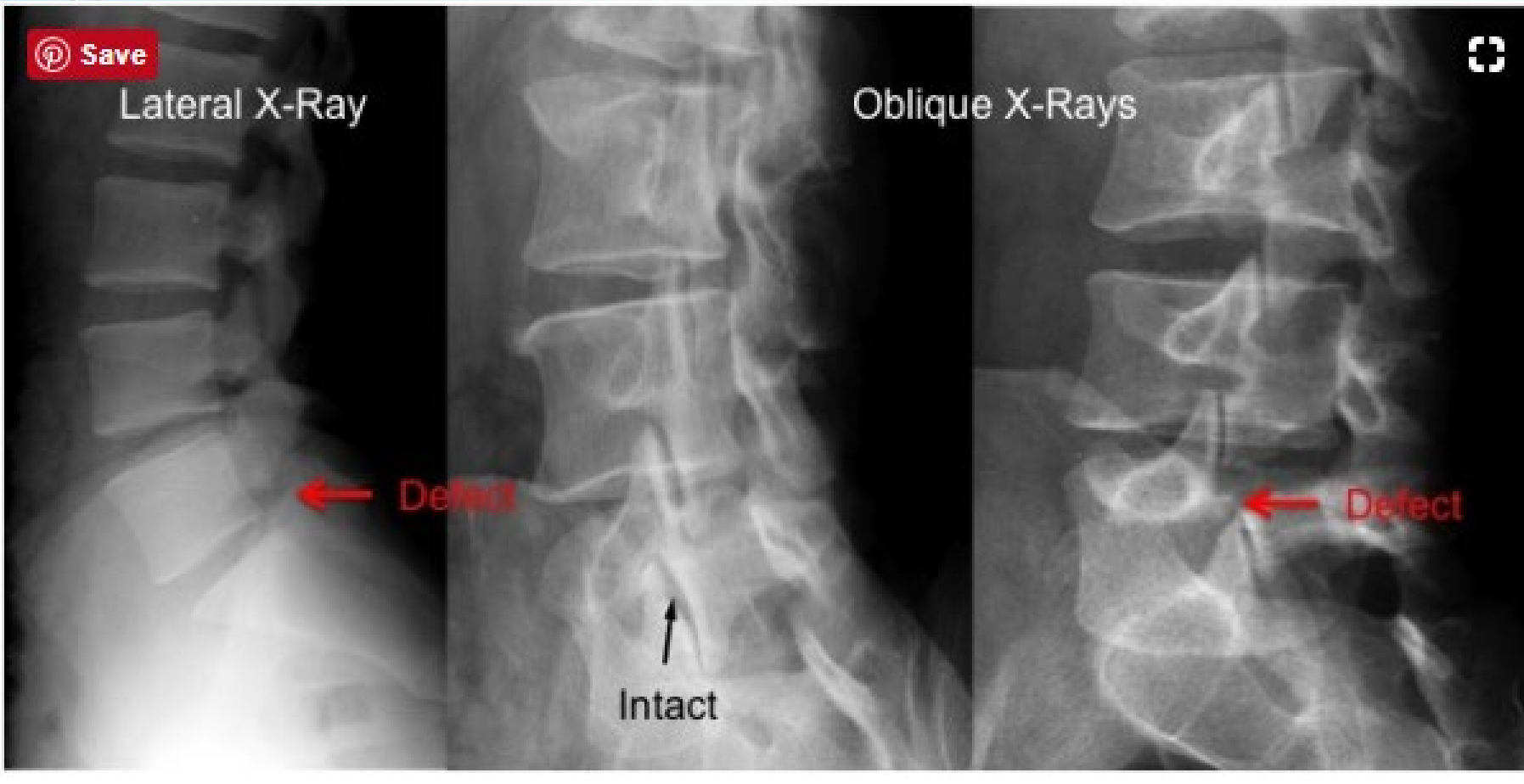
SCOTTIE DOG

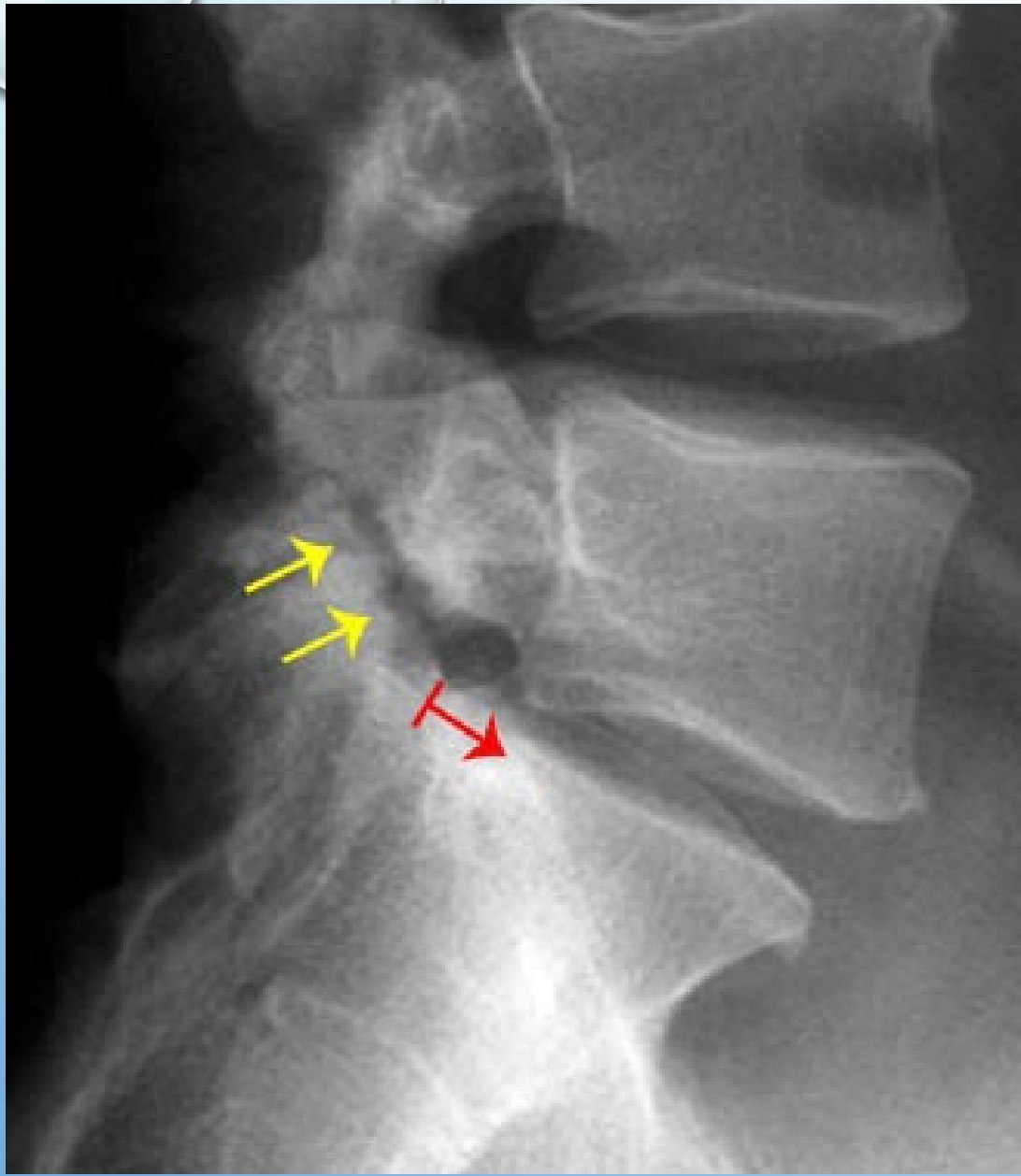




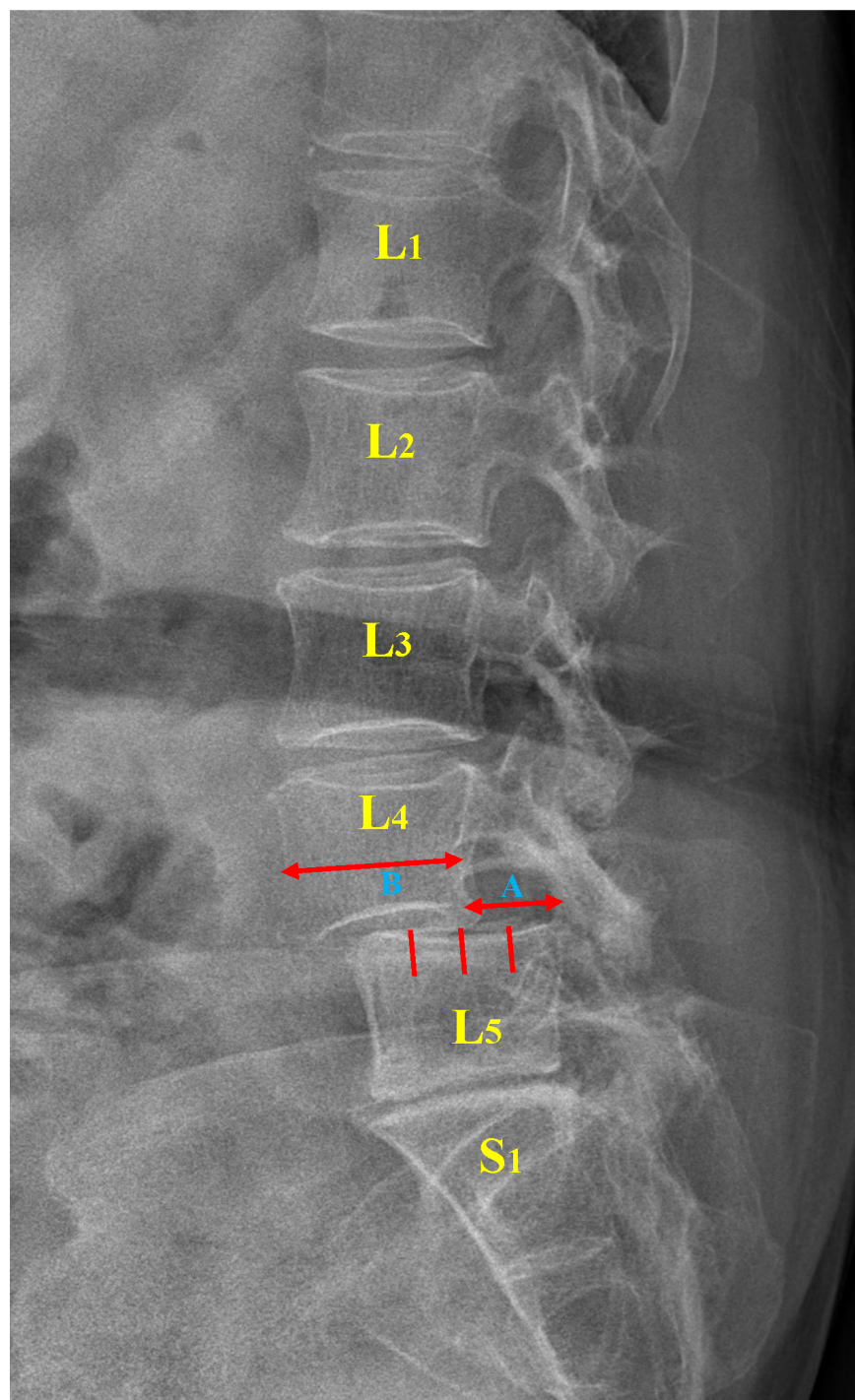


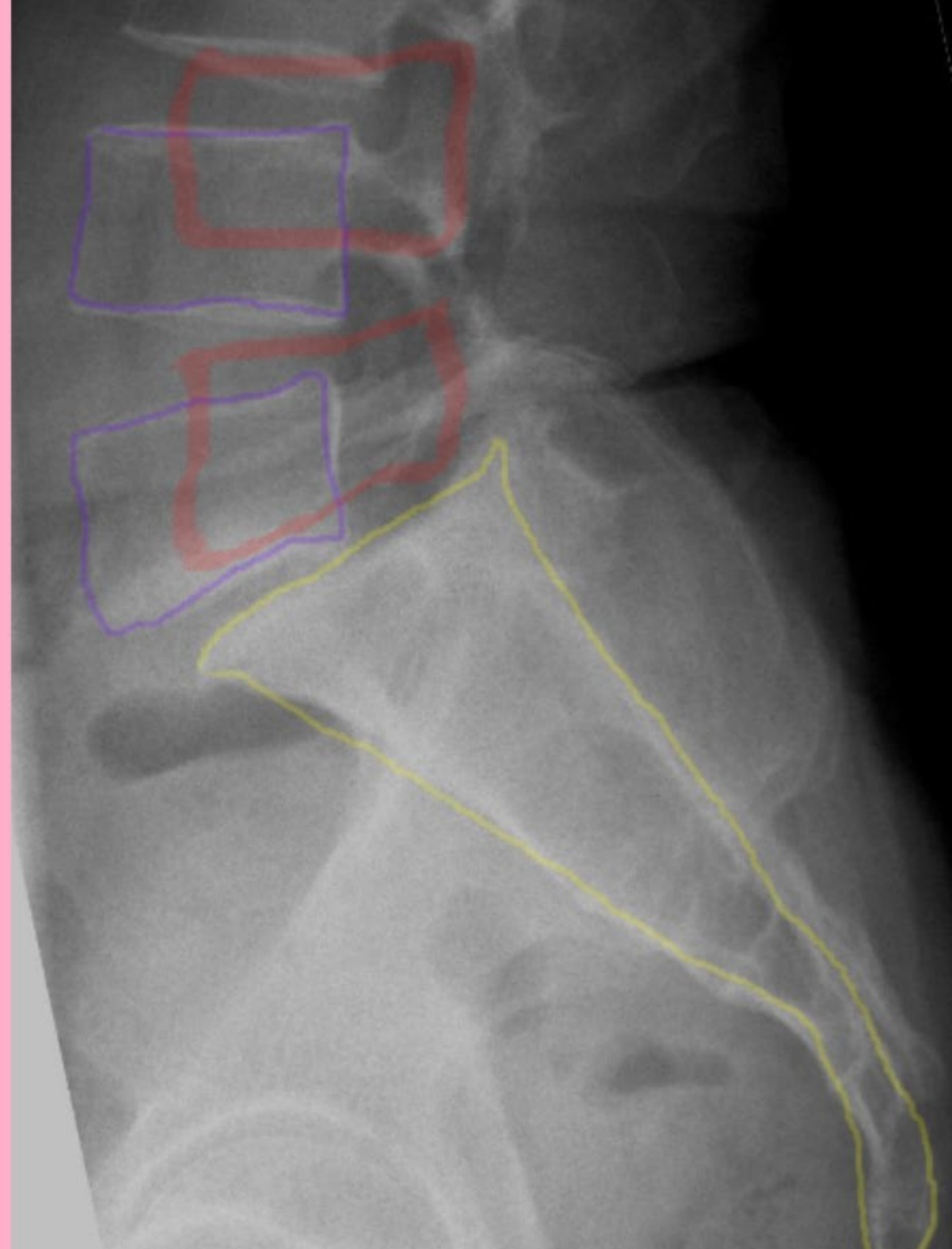
Spondylolysis and Spondylolisthesis











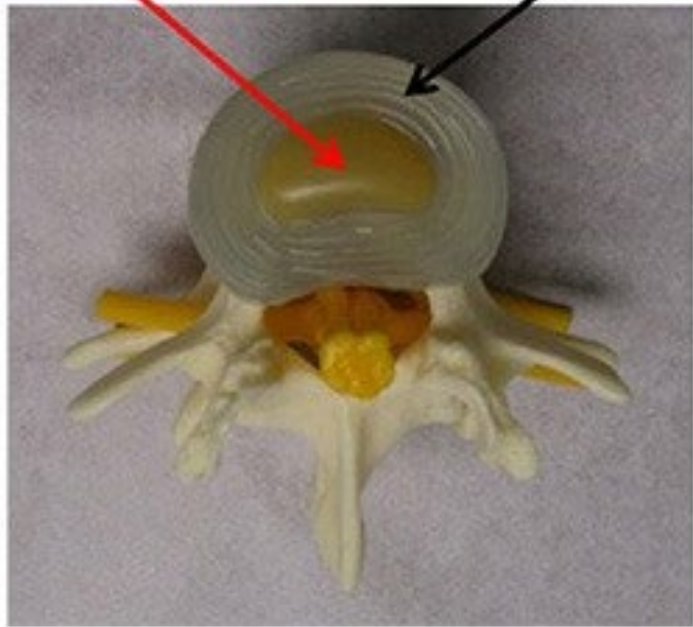


Who's Got Back Pain?



Nucleus pulposus (jelly)

Annulus fibrosus (dough)



Herniated disc

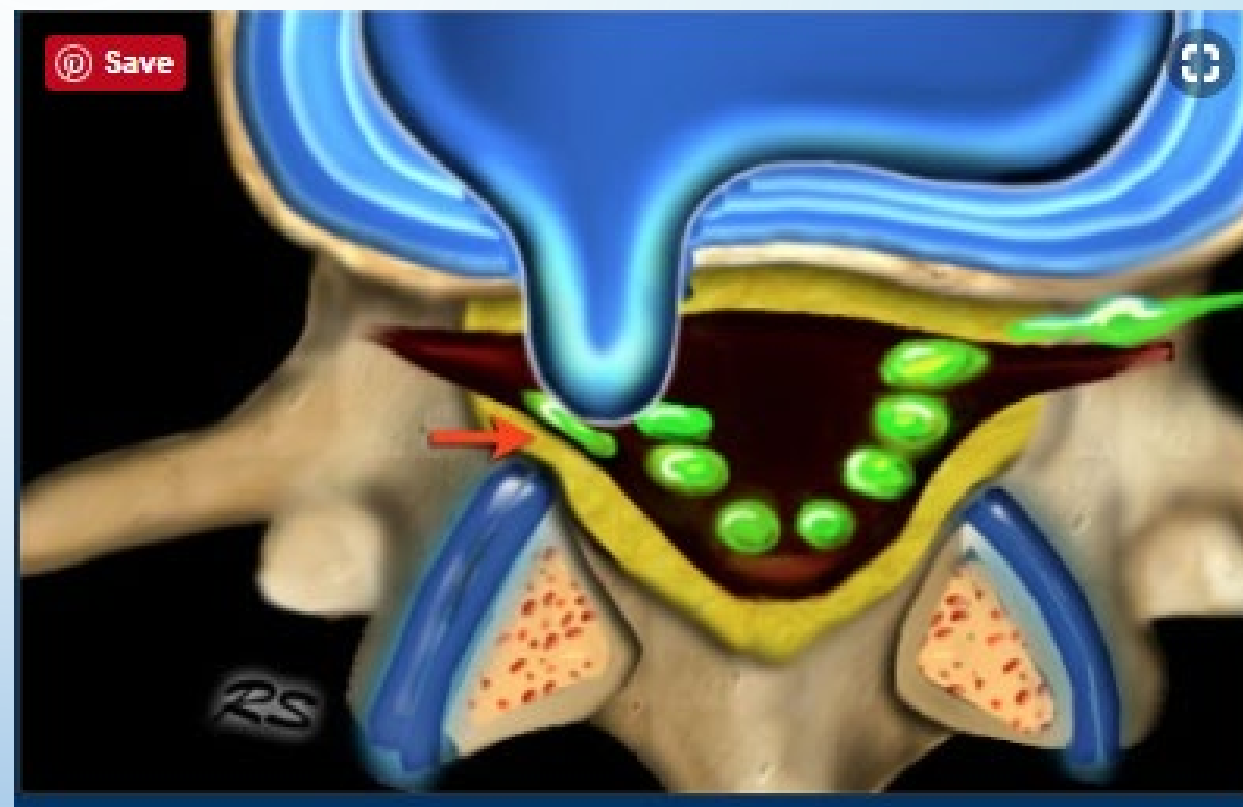
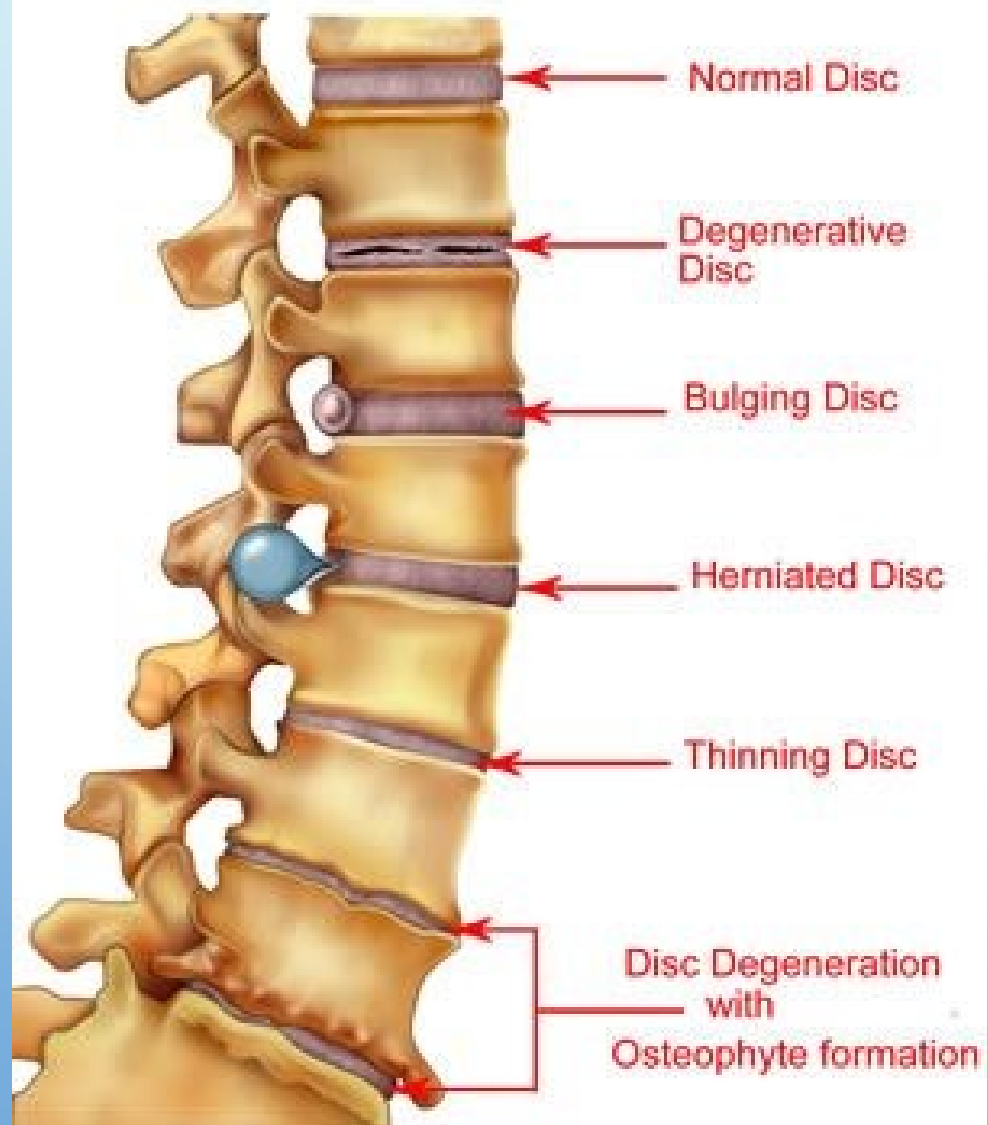


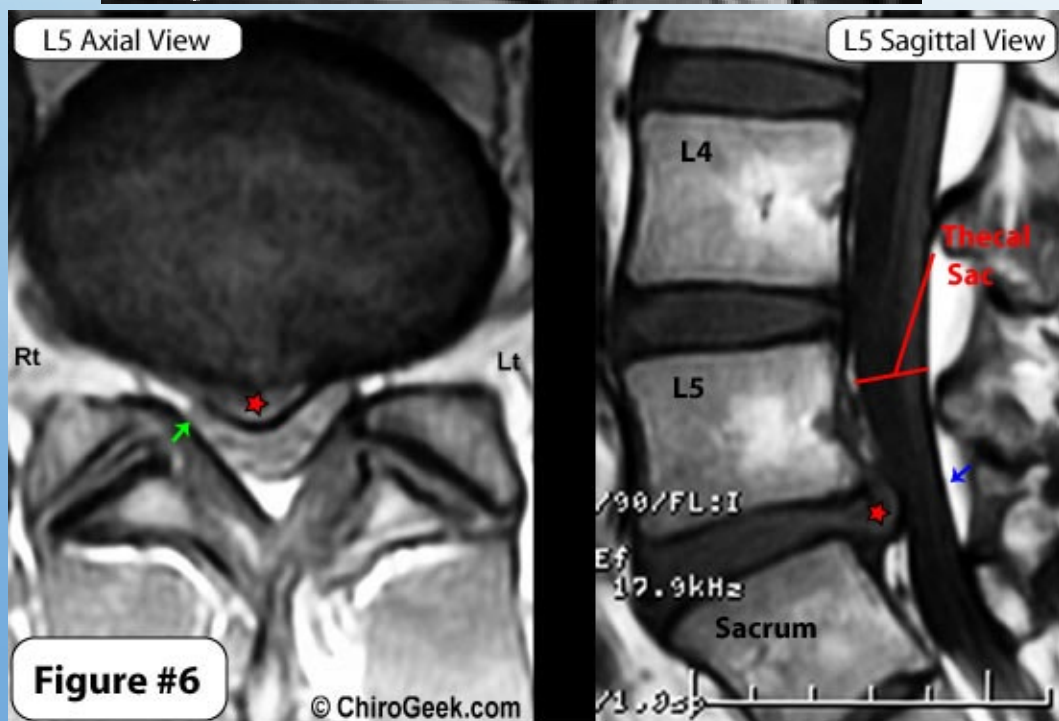
Vertebral bone

Intervertebral disc

Herniated disc
(compressing
the exiting
nerve root)

SPINE CONDITIONS

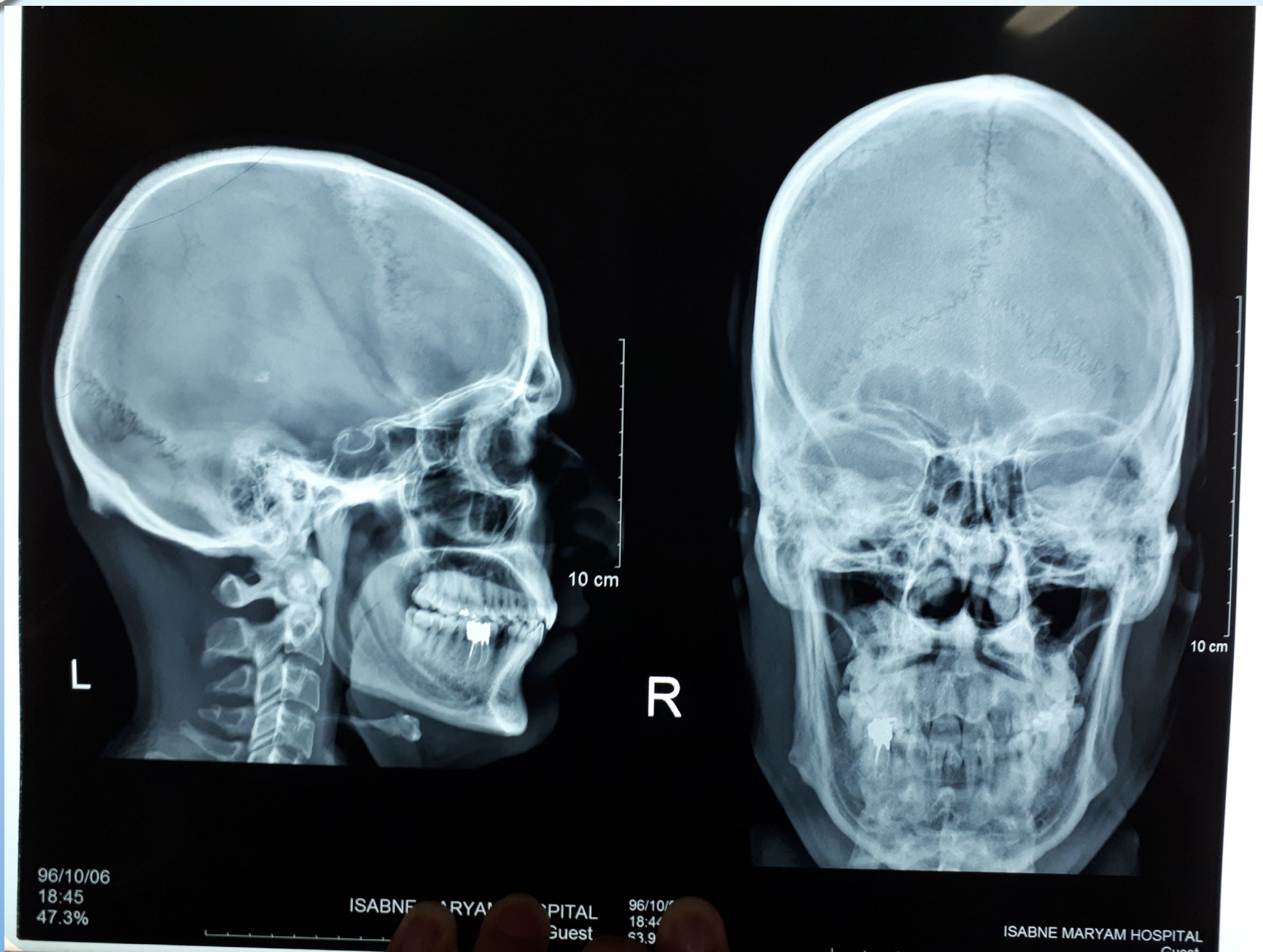








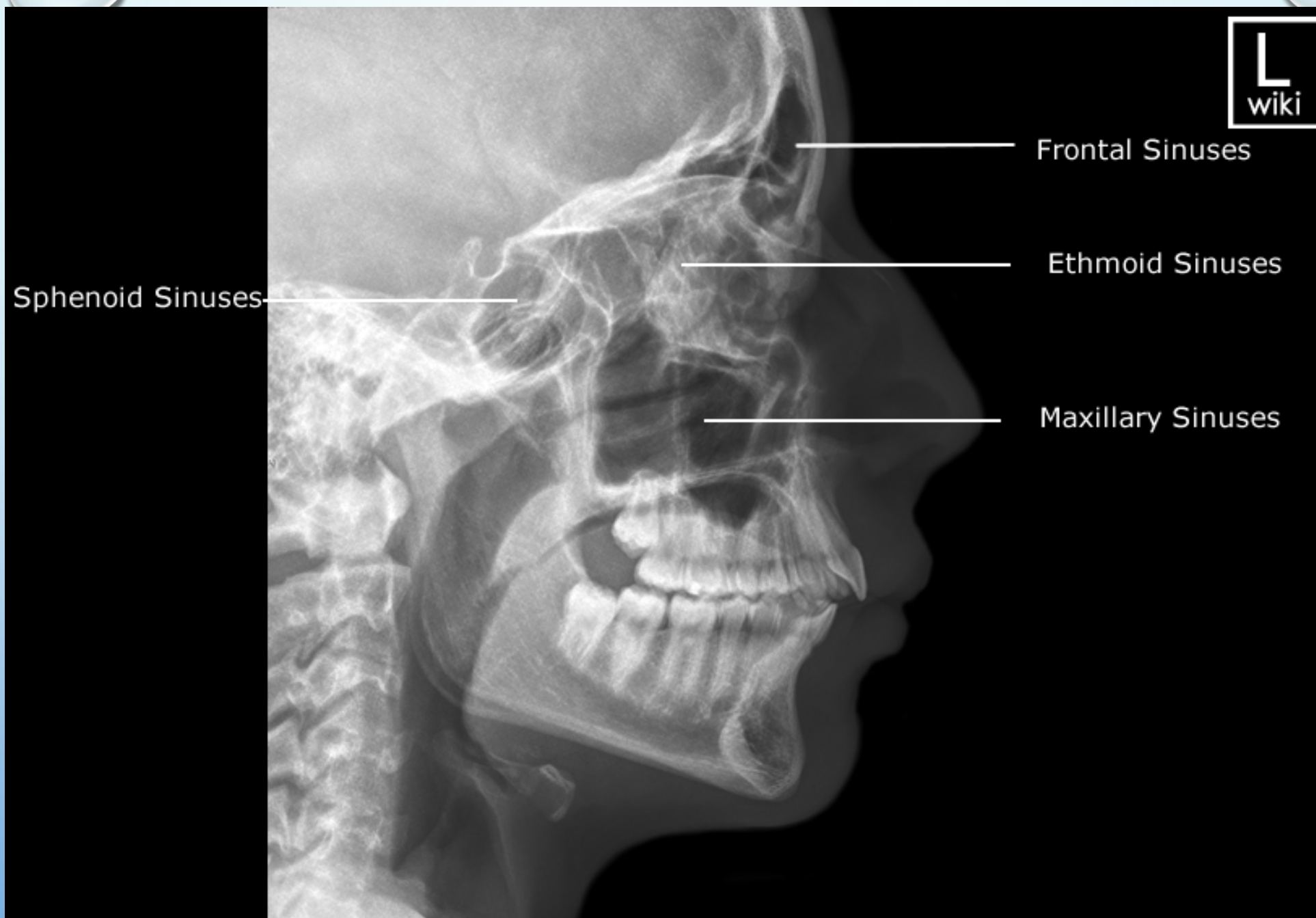












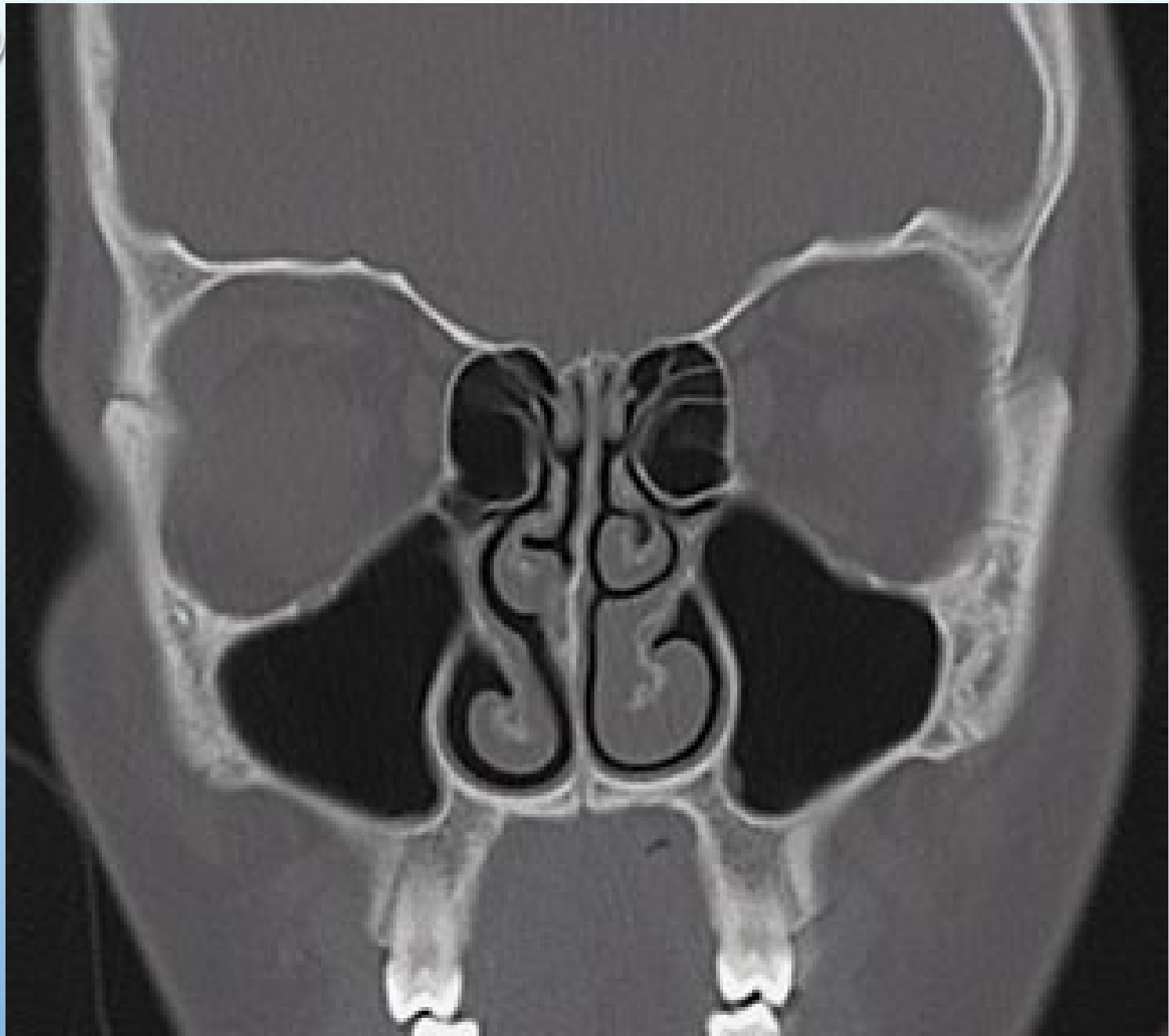
Sphenoid Sinuses

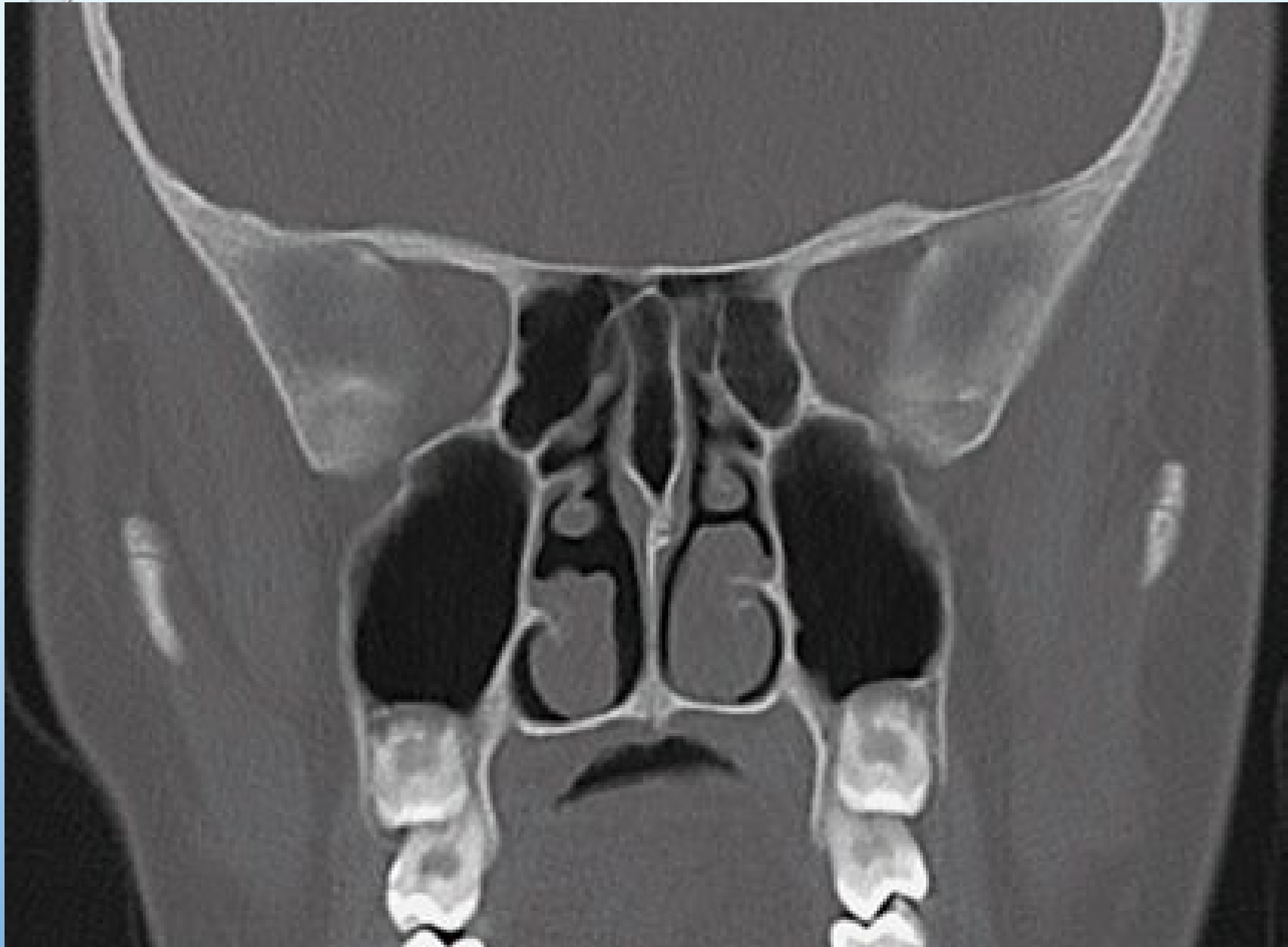
Frontal Sinuses

Ethmoid Sinuses

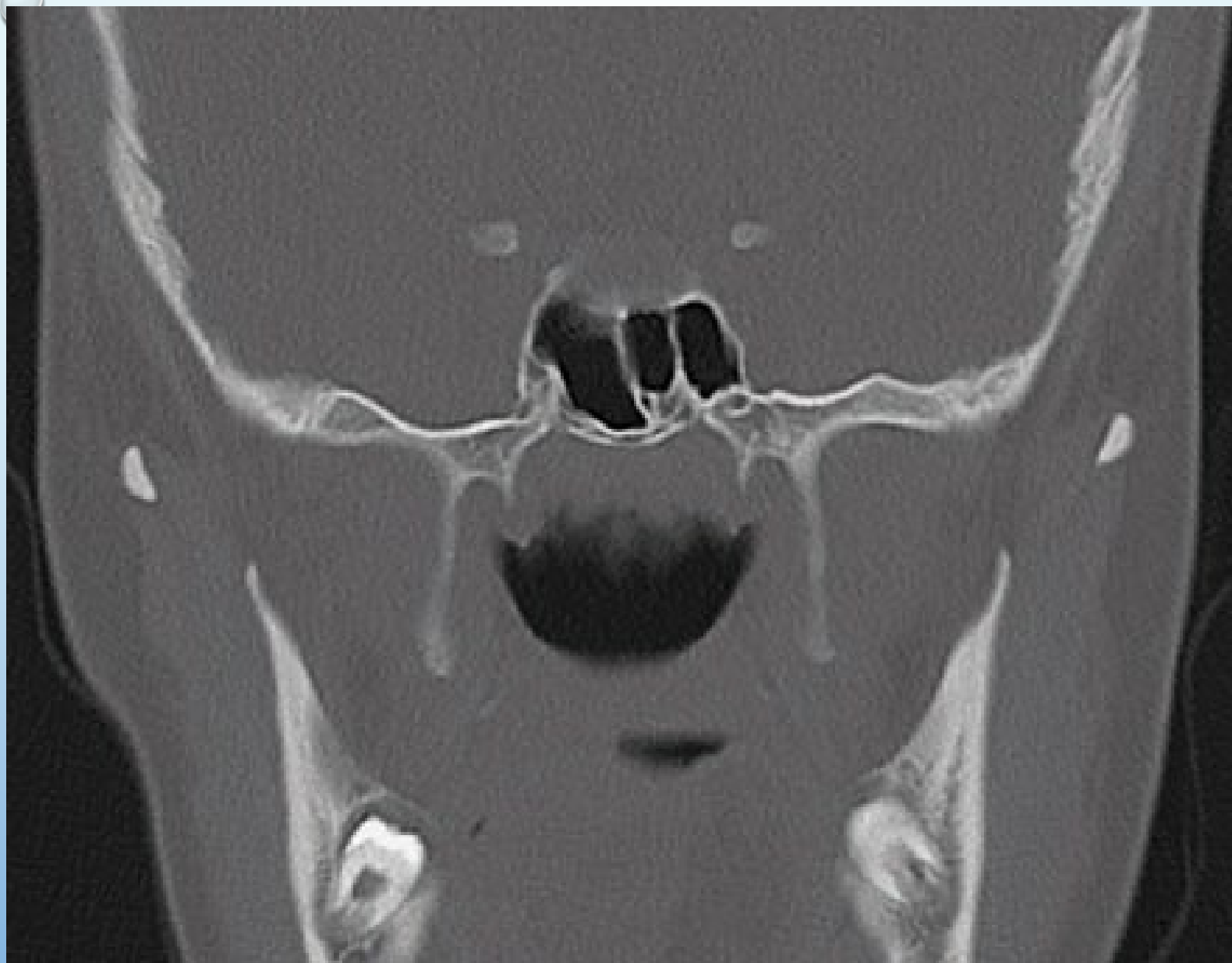
Maxillary Sinuses





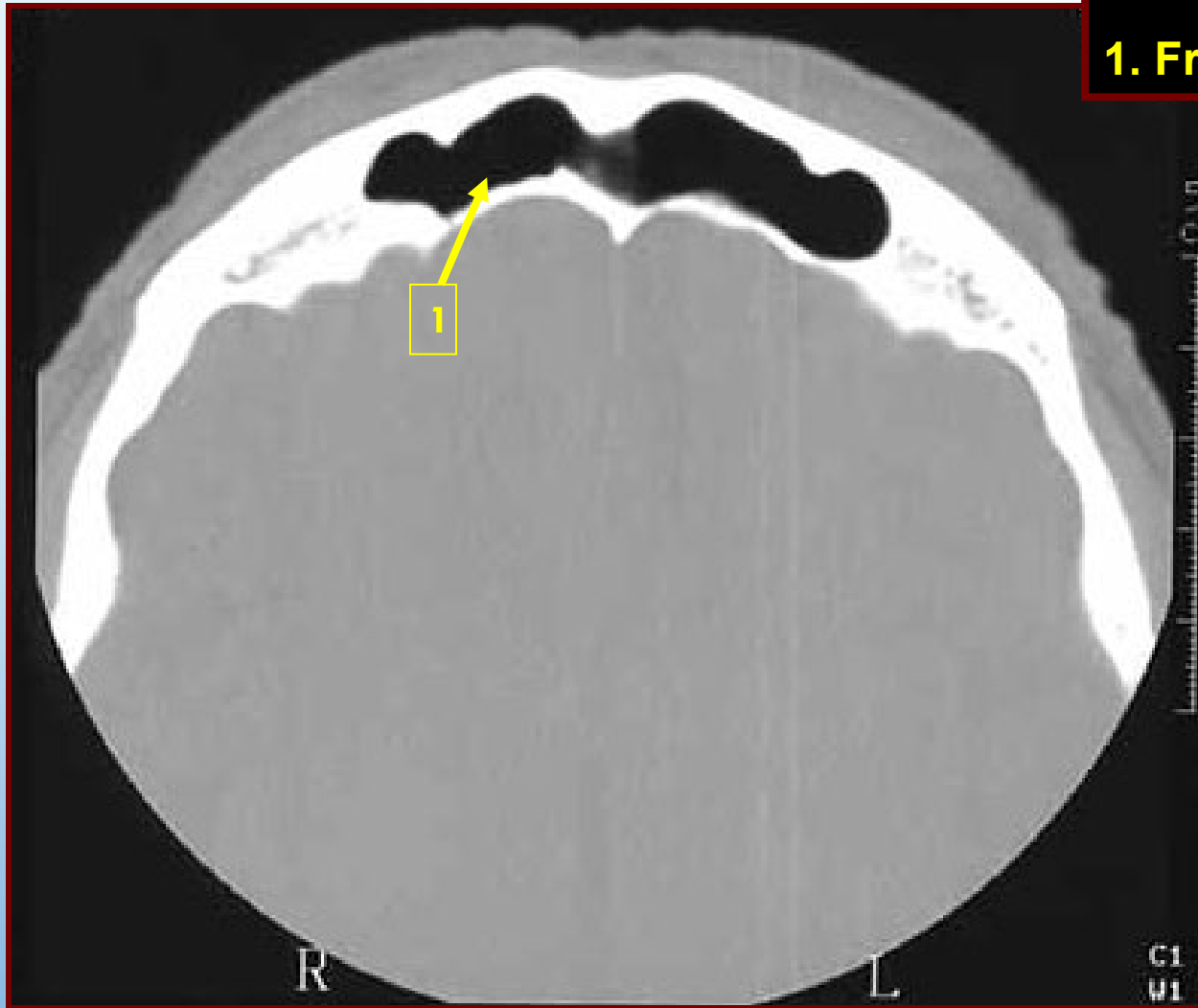






SINUS-CT
Axial view

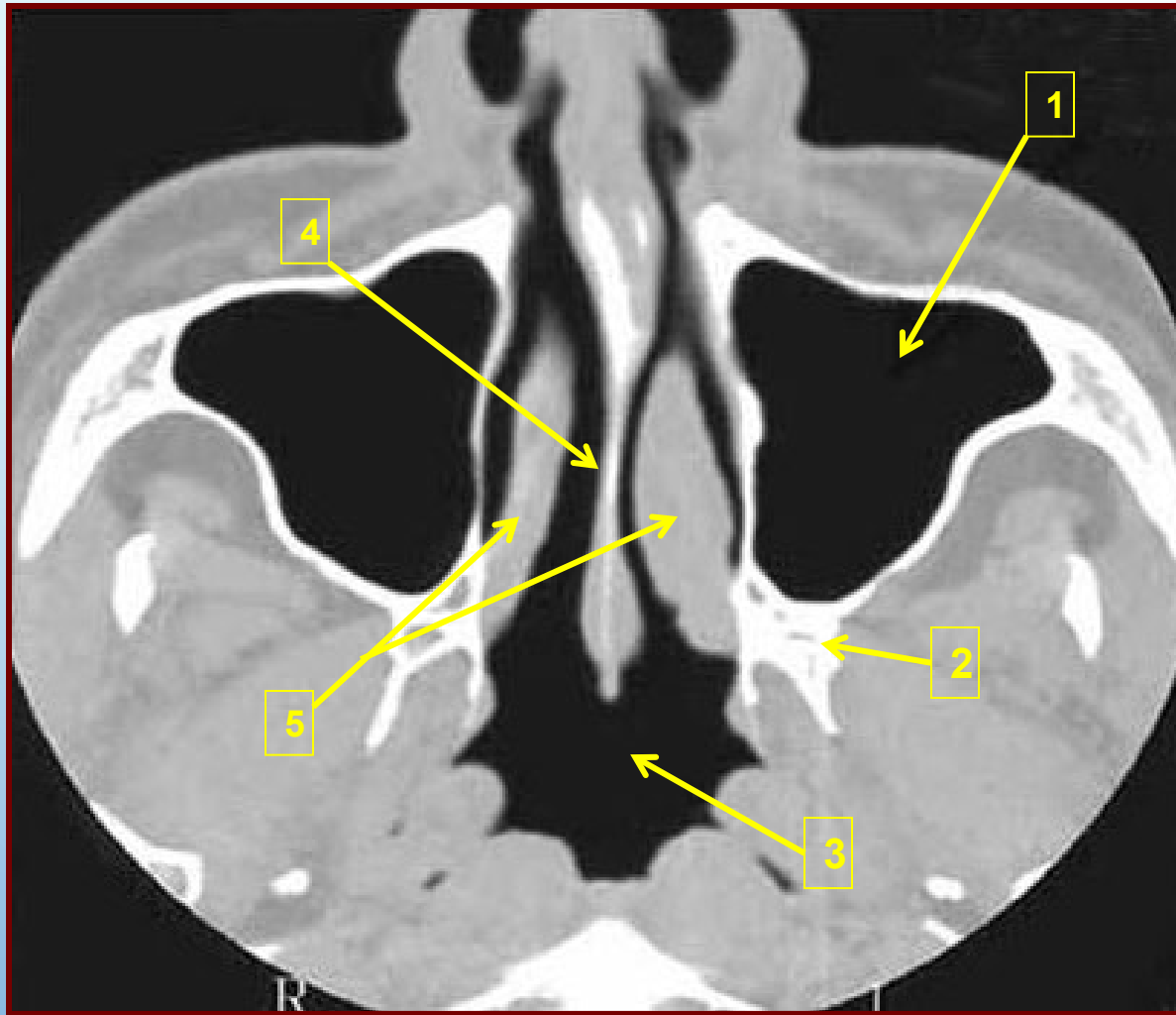
1. Frontal Sinus





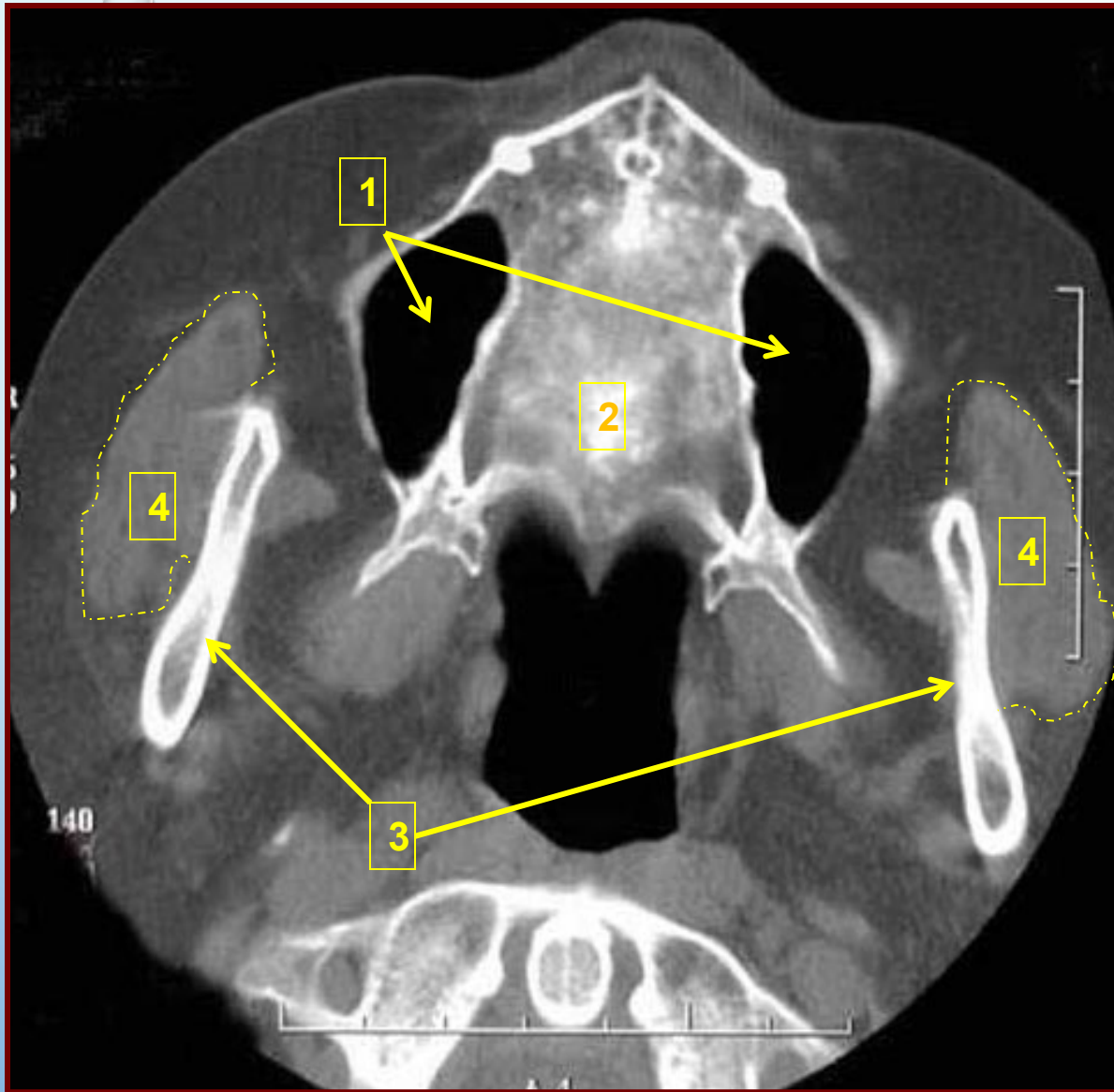
CT of Sinus Axial view

- 1. Ethmoid Sinus**
- 2. Sphenoid Sinus**
- 3. Carotid canal**



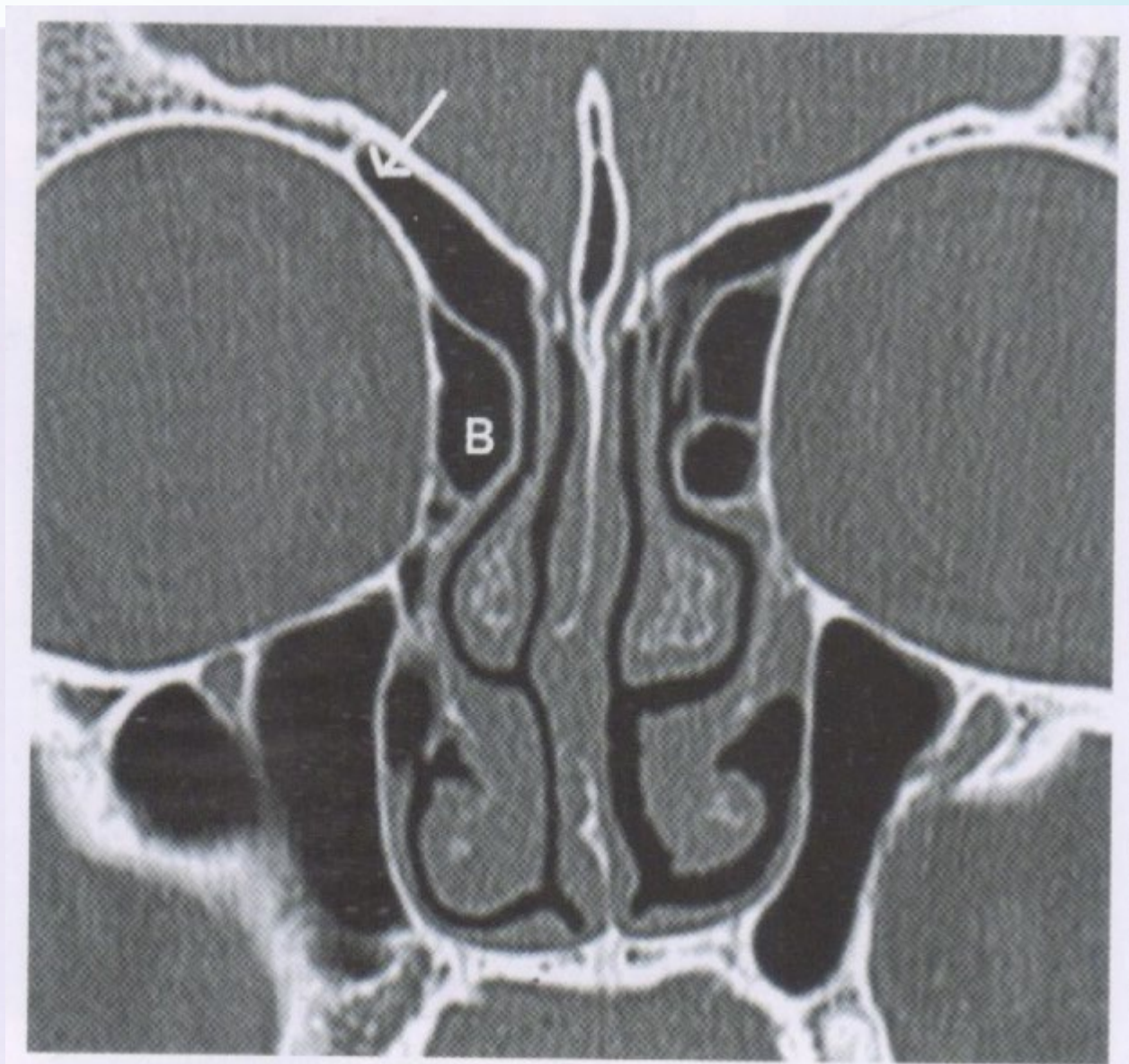
CT of Sinus Axial view

- 1. Maxillary Sinus**
- 2. Pterygoid plate**
- 3. Nasopharynx**
- 4. Nasal septum**
- 5. Inferior turbinate**



CT of Sinus Axial View

- 1. Maxillary Sinus**
- 2. Hard Palate**
- 3. Mandible**
- 4. Masseter muscle**





CASE 1



CASE 2

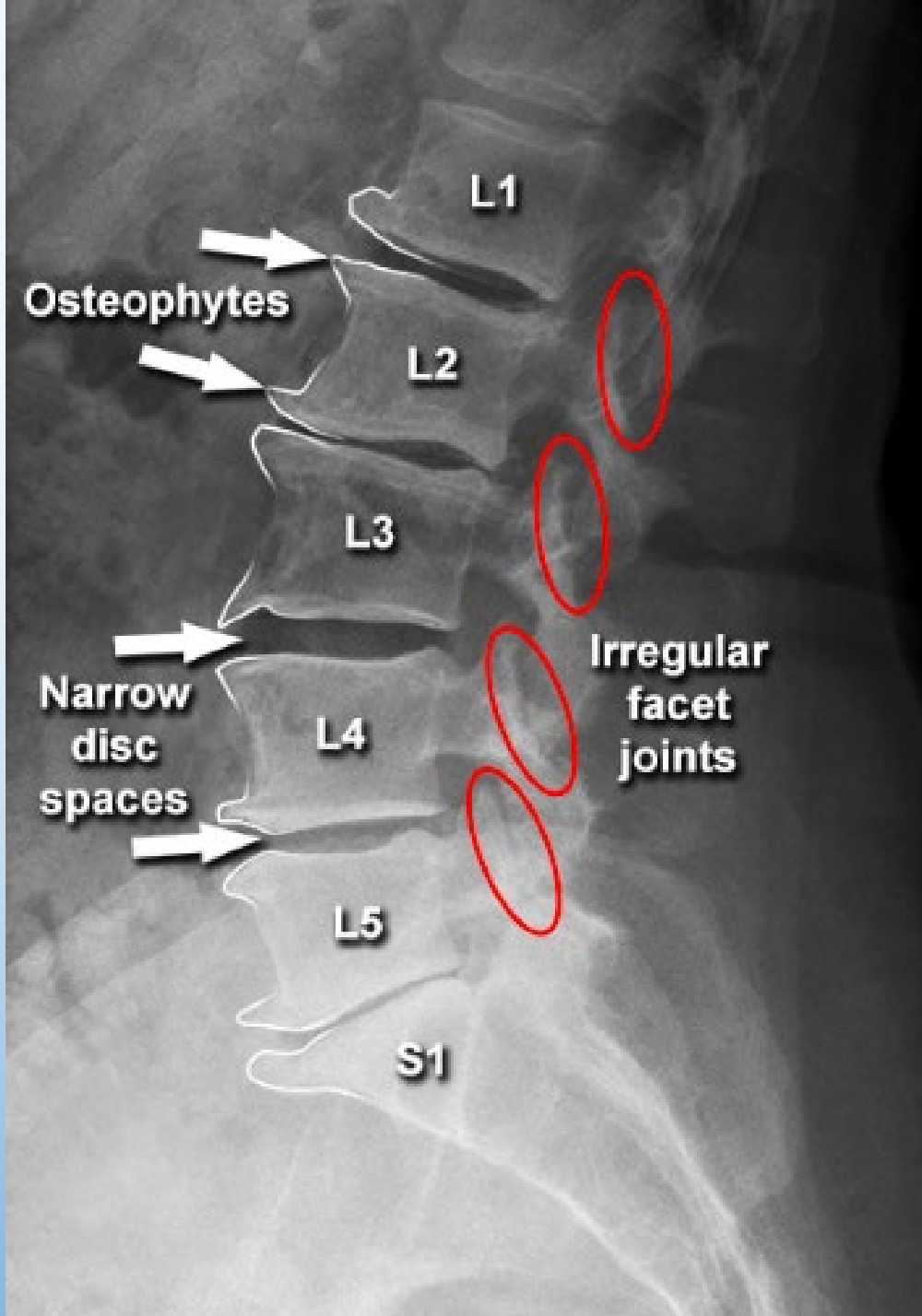
5649414211
TAYEBI, TAHEREH

06/17/2023
10:45
Spine, Lower limb
Knee AP



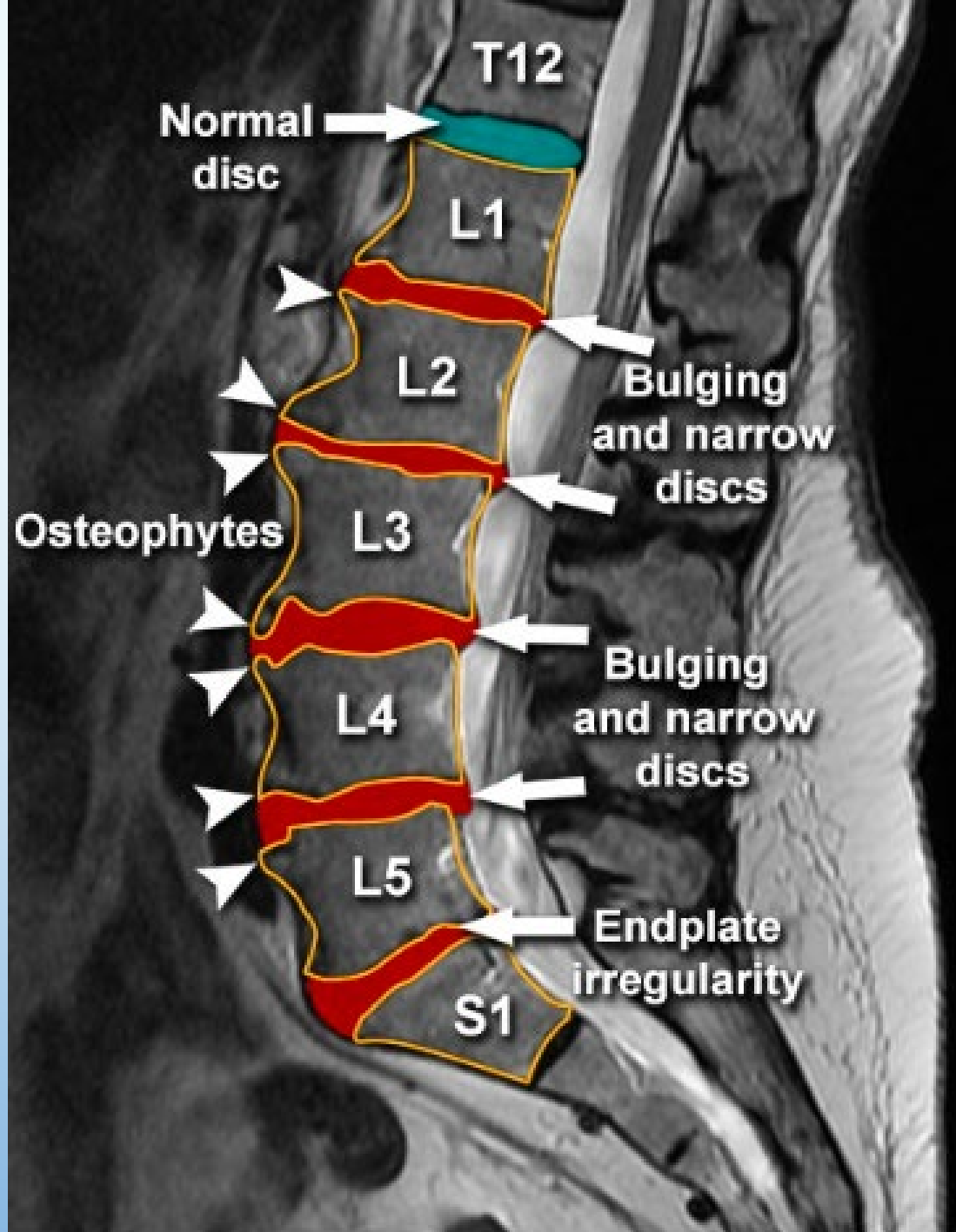
CASE ۳





CASE ۲



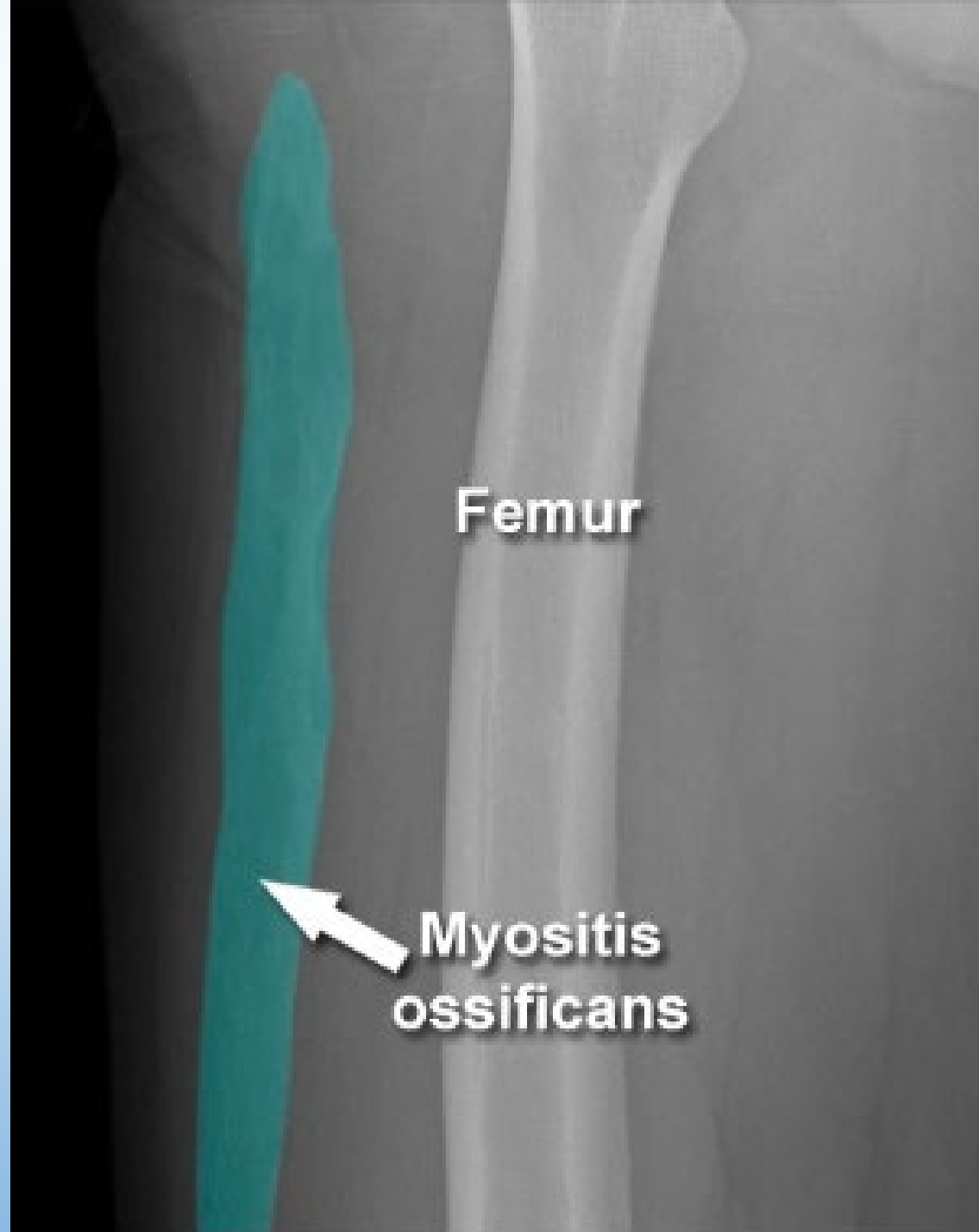


CASE ۲



MYOSITIS OSSIFICANS





Femur

Myositis
ossificans

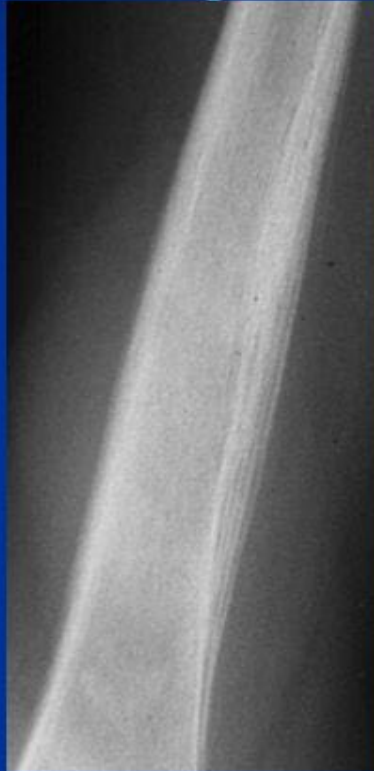


6. Periosteal reaction:

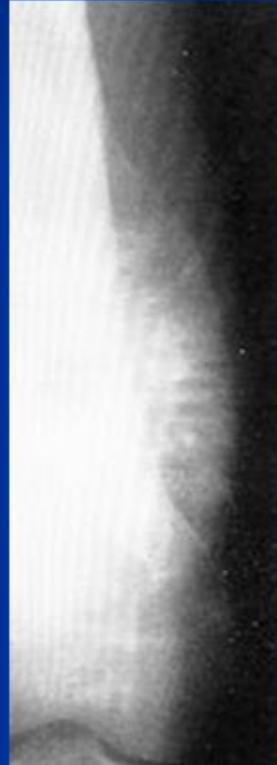
Excess bone produced by the periosteum which occurs in response to such condition: a-**neoplasm** b-**inflammation** c-**trauma**



Solid



Lamellated



Sunburst



Codman's

Less malignant

More malignant

Periosteal reaction

Solid

Lamellated

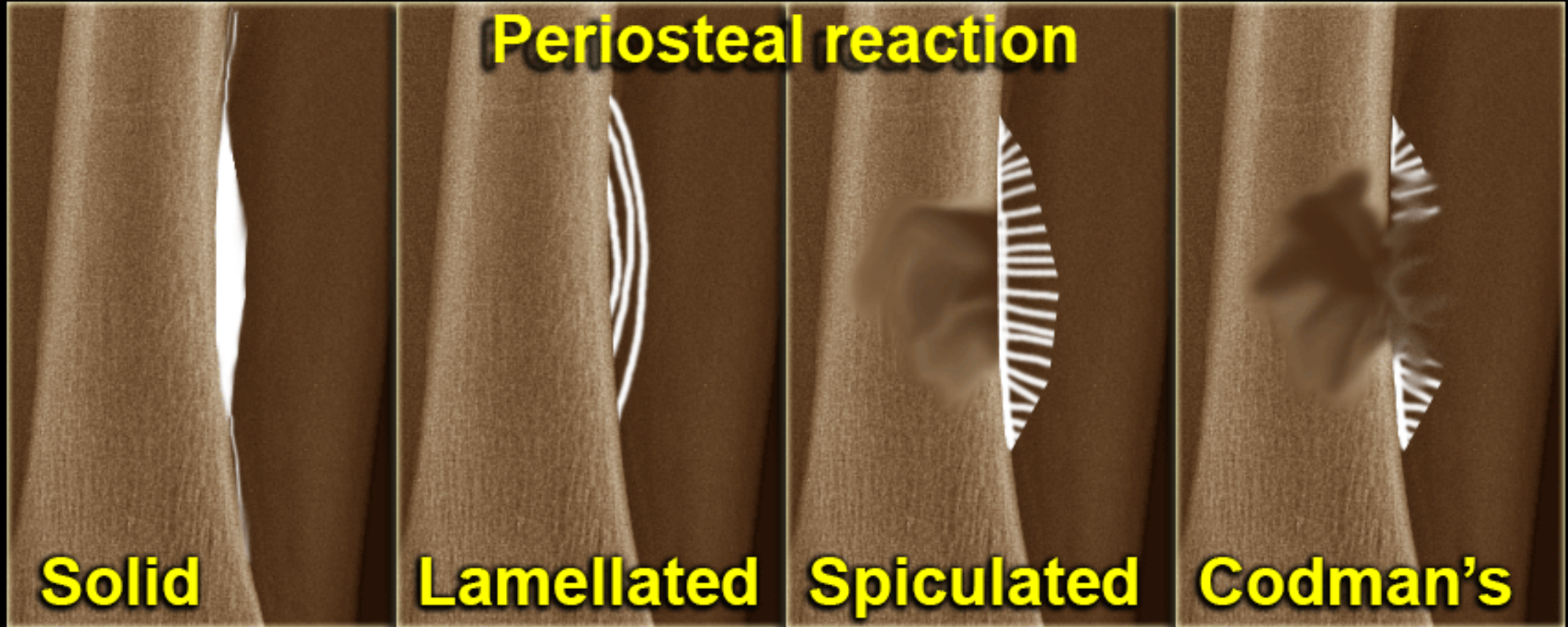
Spiculated

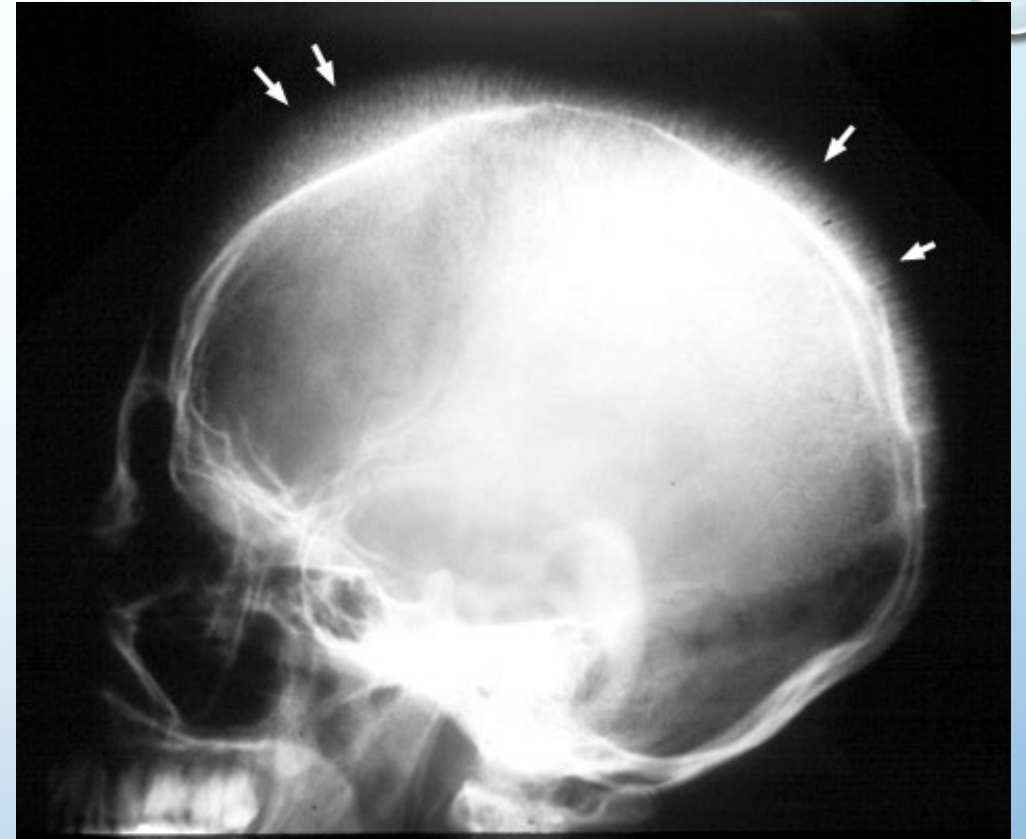
Codman's

Benign

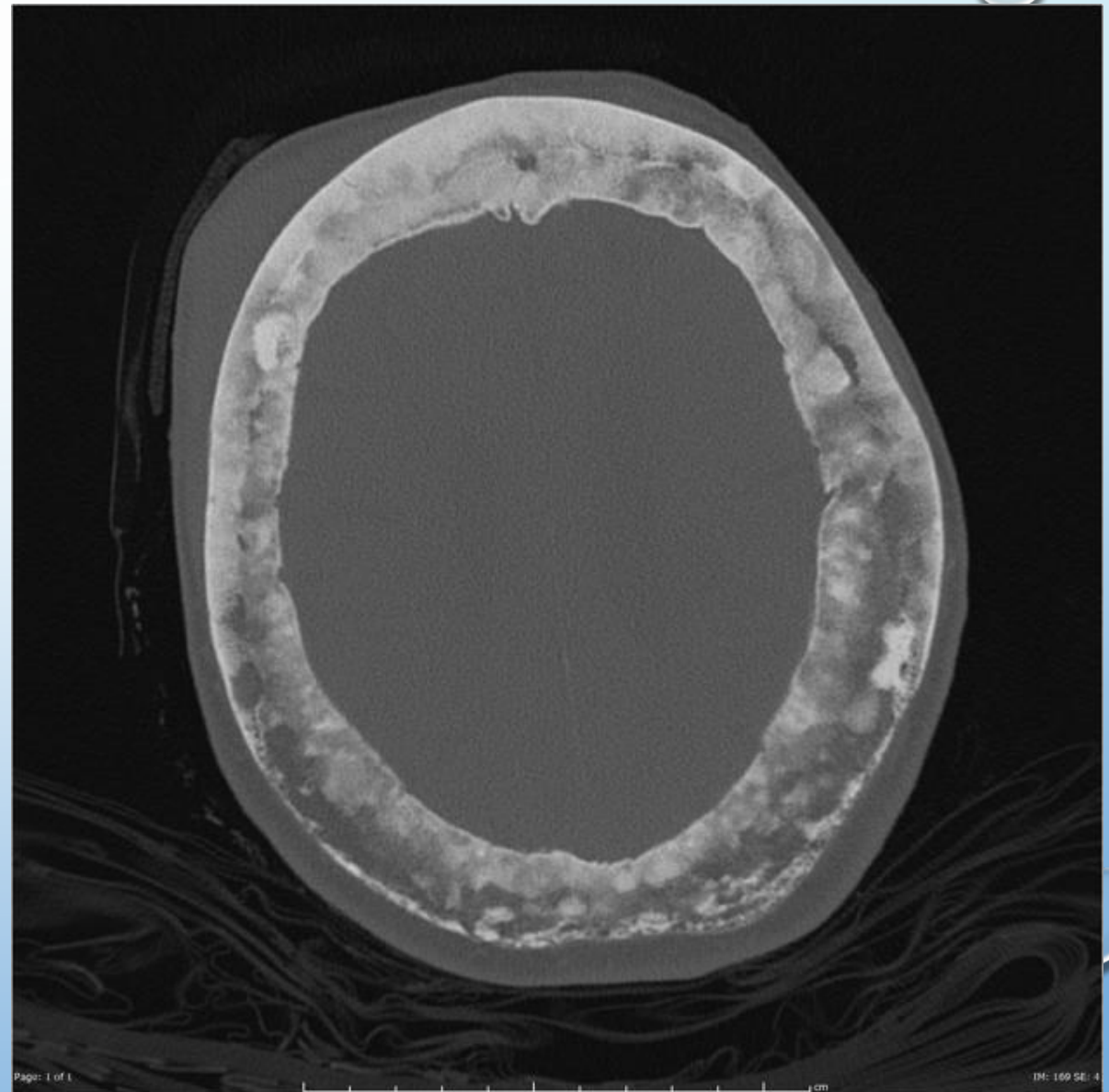
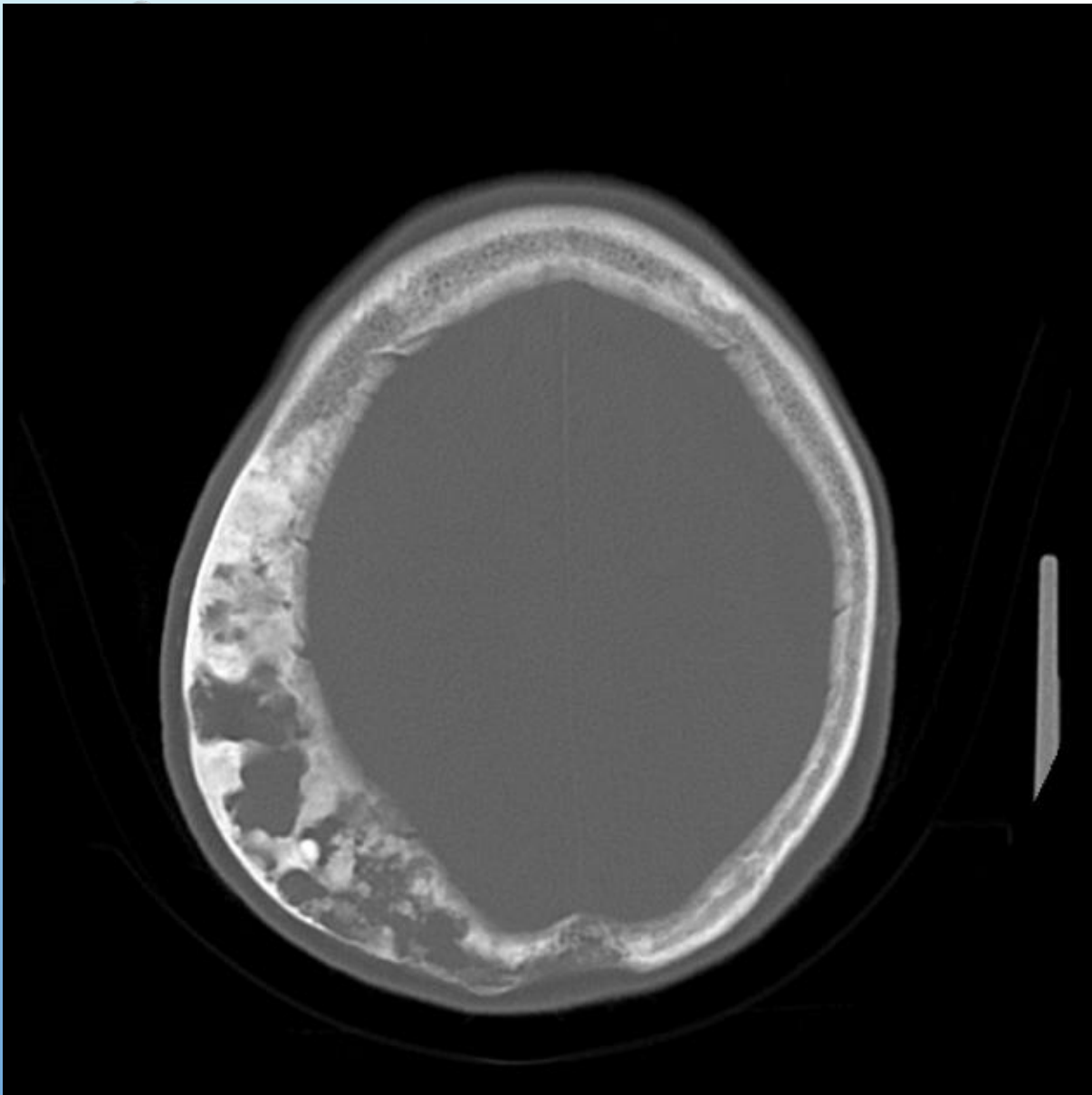
Aggressive

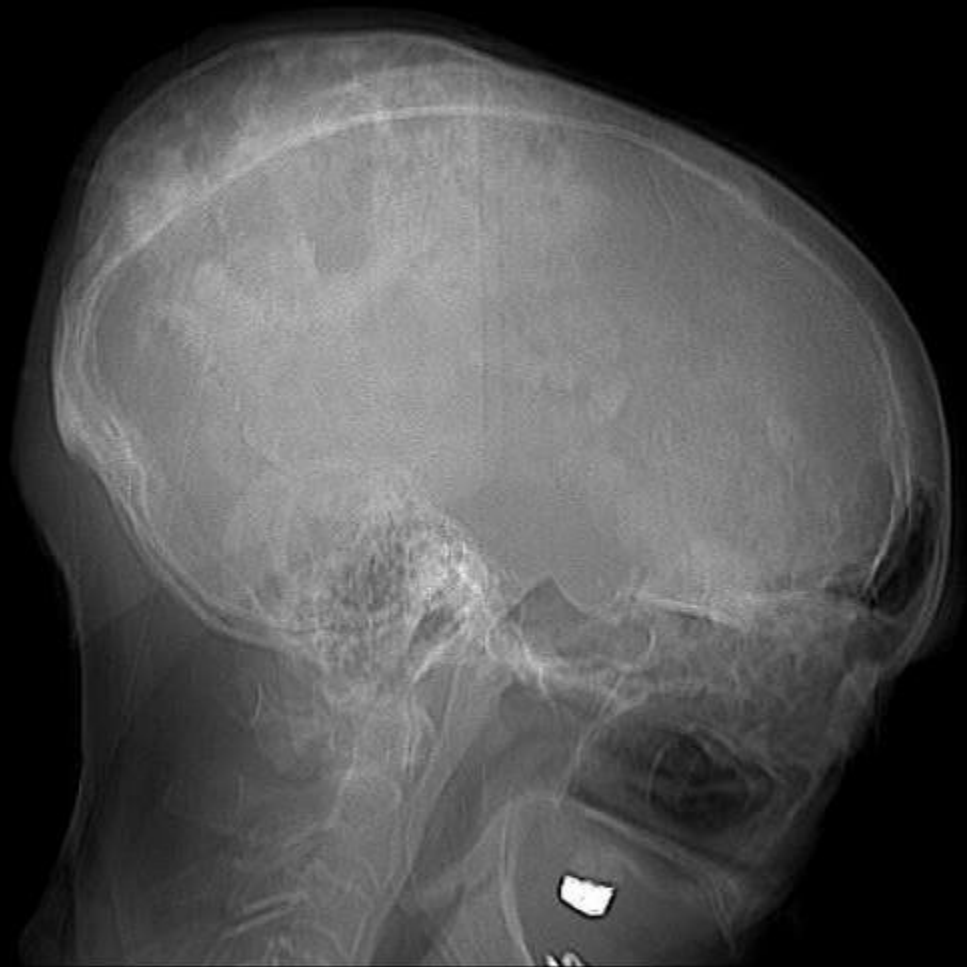
Very Aggressive



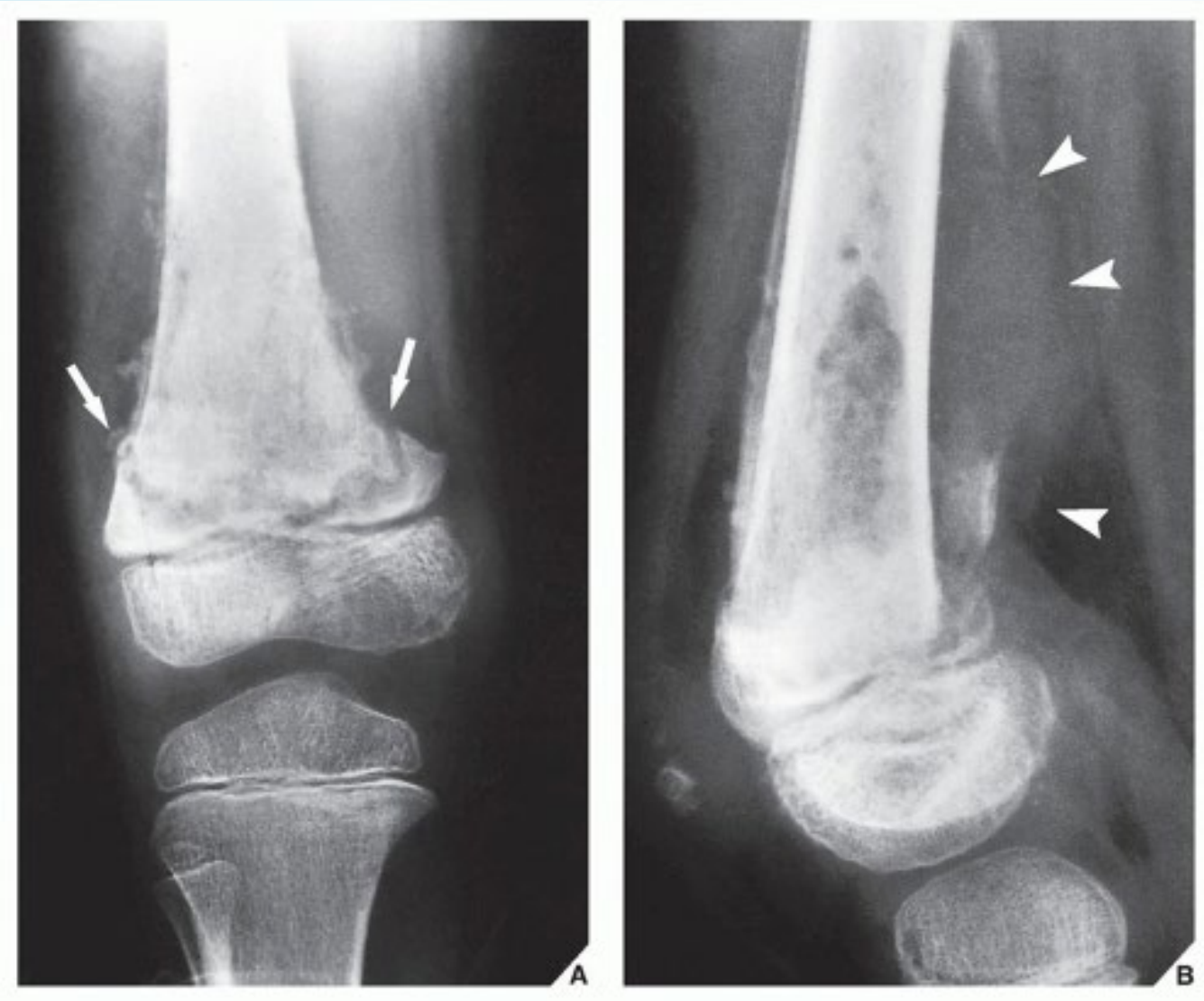


PAGET DISEASE OF BONE

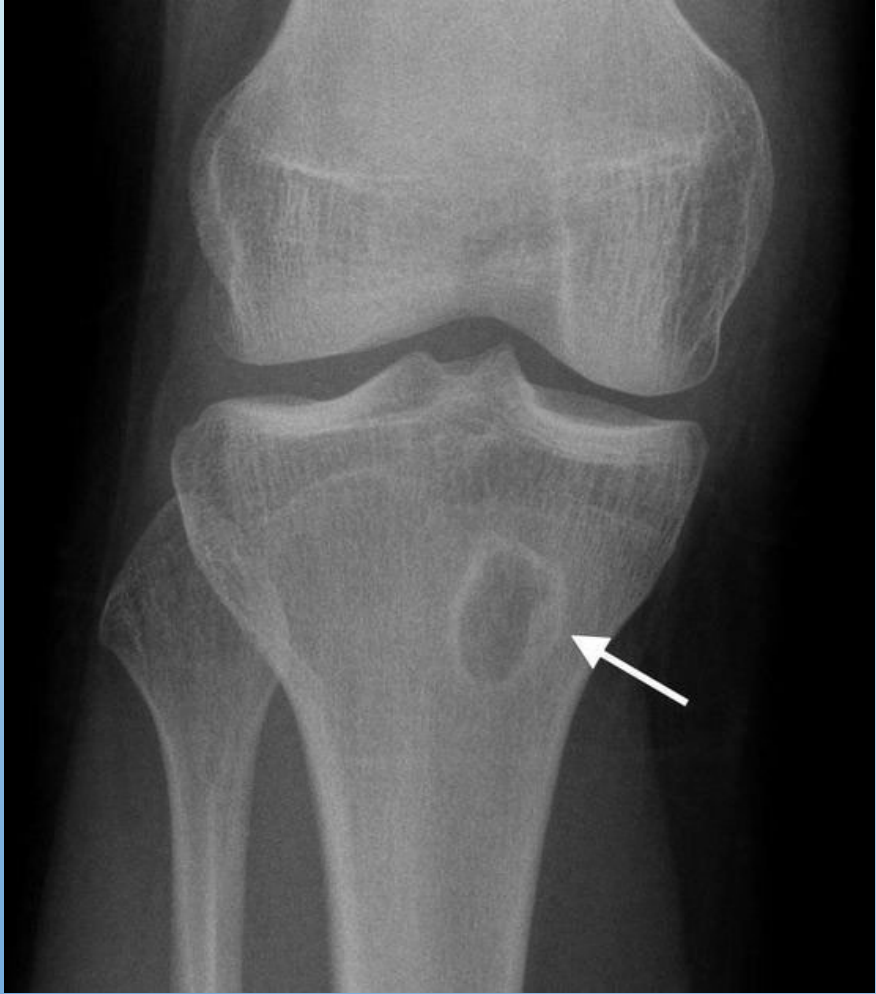




OSTEOMYELITIS



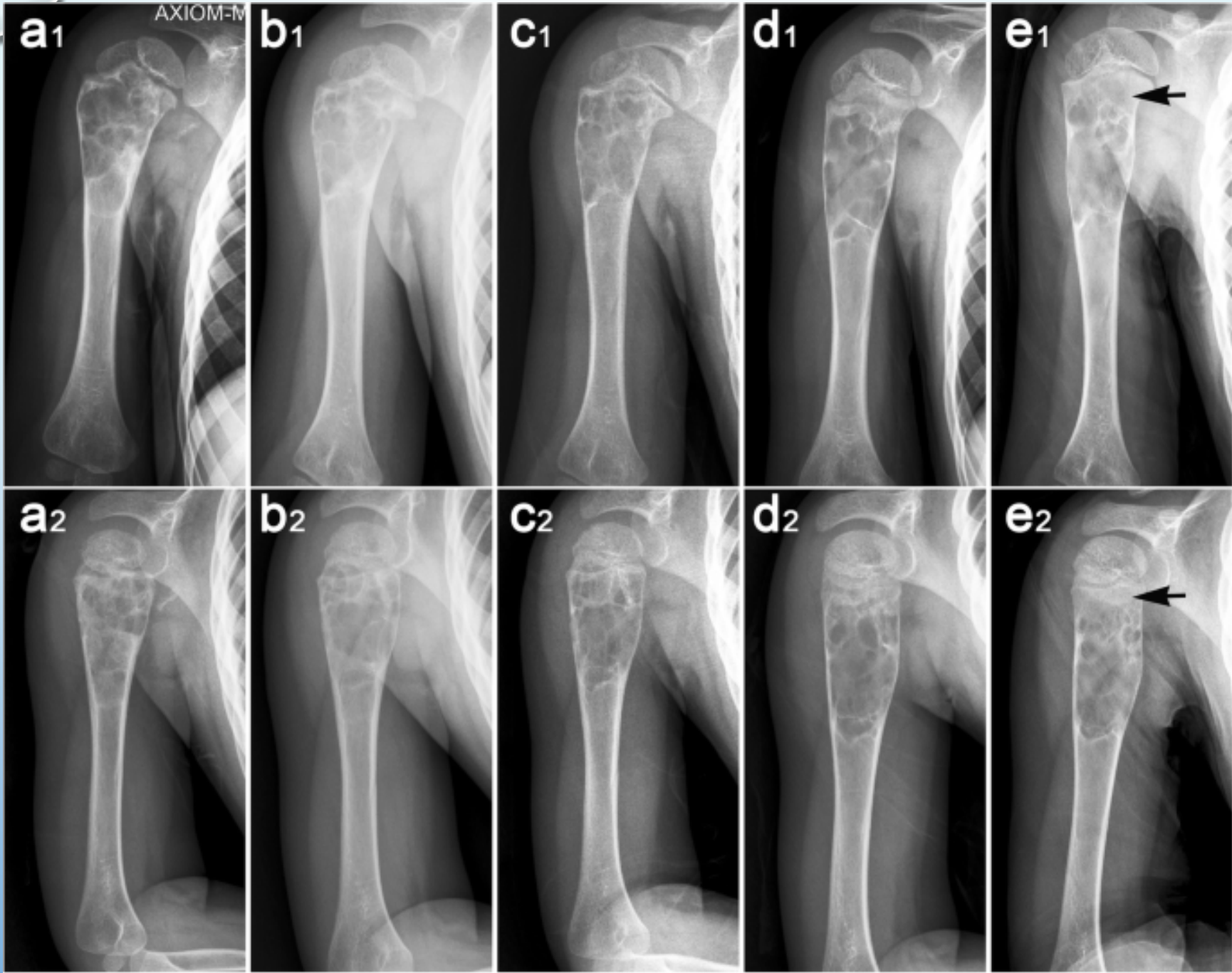




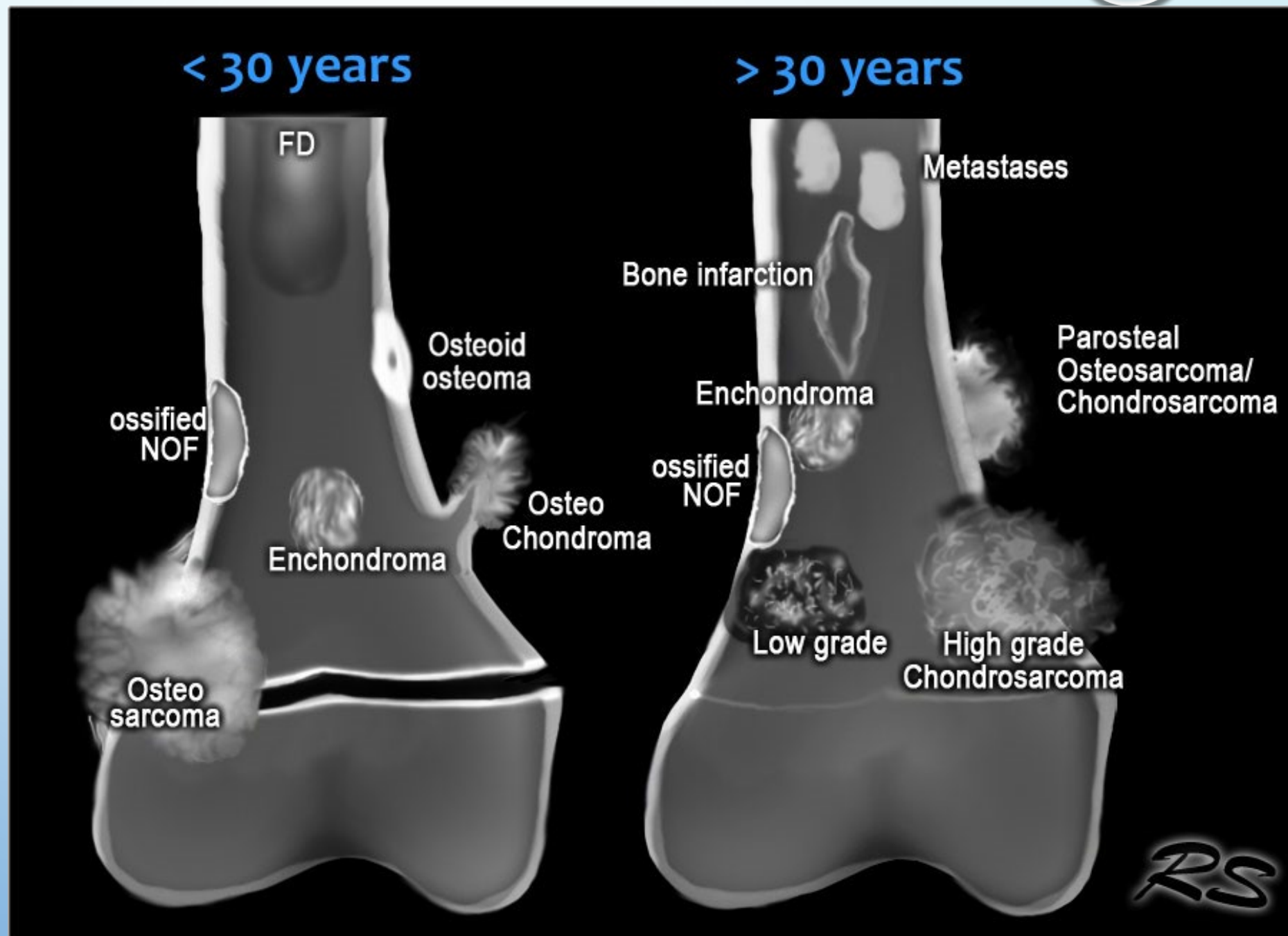


BONE CYST





- **NOF = NON
OSSIFYING FIBROMA**



BONE INFARCTION

AVASCULAR NECROSIS

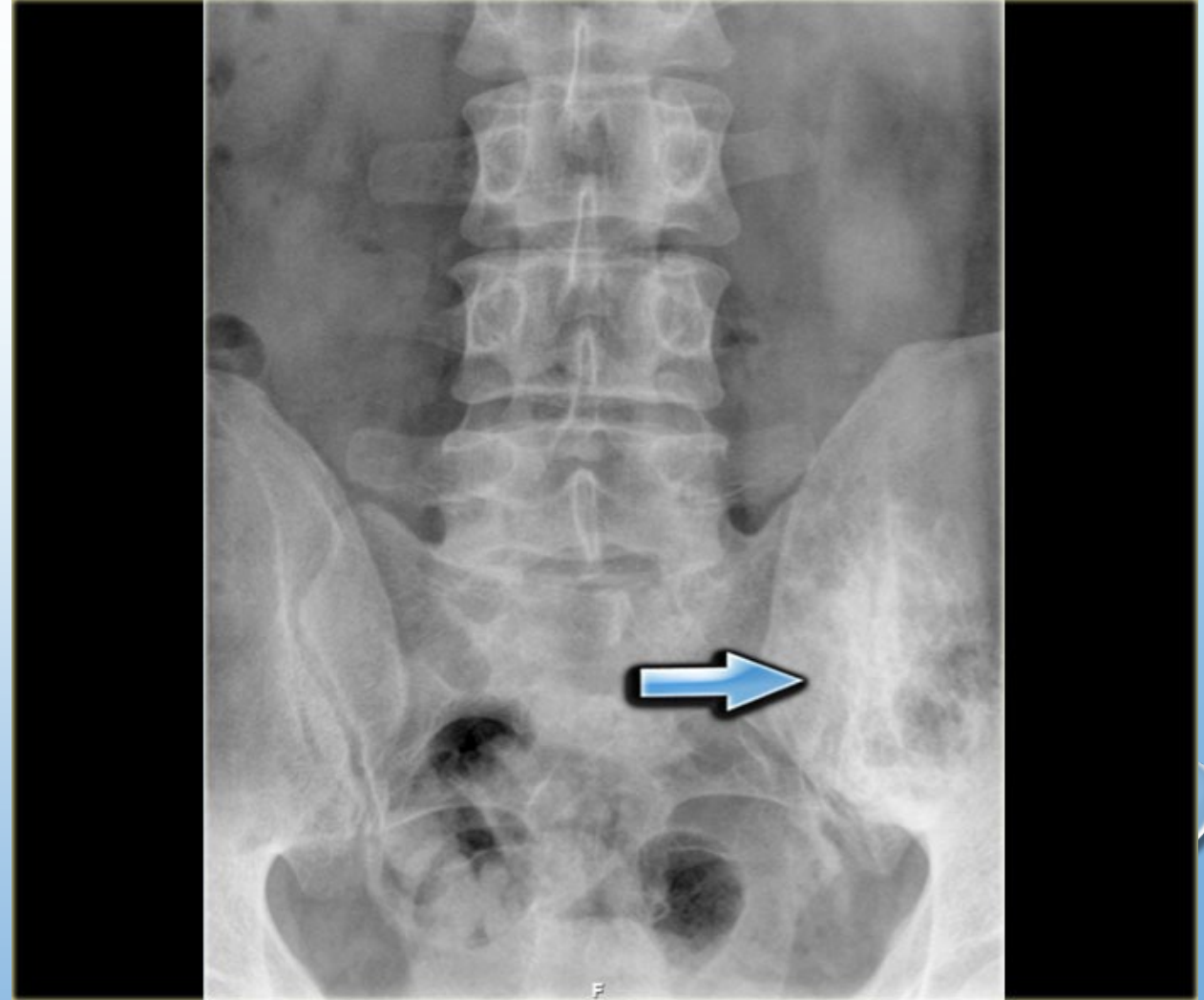
OSTEONECROSIS

- CENTRAL LESION IN METAPHYSIS OR DIAPHYSIS WITH A WELL DEFINED SERPENTIGINOUS BORDER.



FIBROUS DYSPLASIA

- FD IS OFTEN PURELY LYTIC, BUT MAY HAVE A GROUNDGLASS APPEARANCE AS THE MATRIX CALCIFIES.





• **OSTEOSARCOMA**

- 2ND MOST COMMON PRIMARY BONE TUMOR AND HIGHLY MALIGNANT.
- 50% AROUND THE KNEE.
- PRESENTATION: PAIN, MASS, PATHOLOGIC FRACTURE.
- SCLEROSIS IS PRESENT FROM EITHER TUMOR NEW BONE FORMATION OR REACTIVE SCLEROSIS.



BONE CALLUS



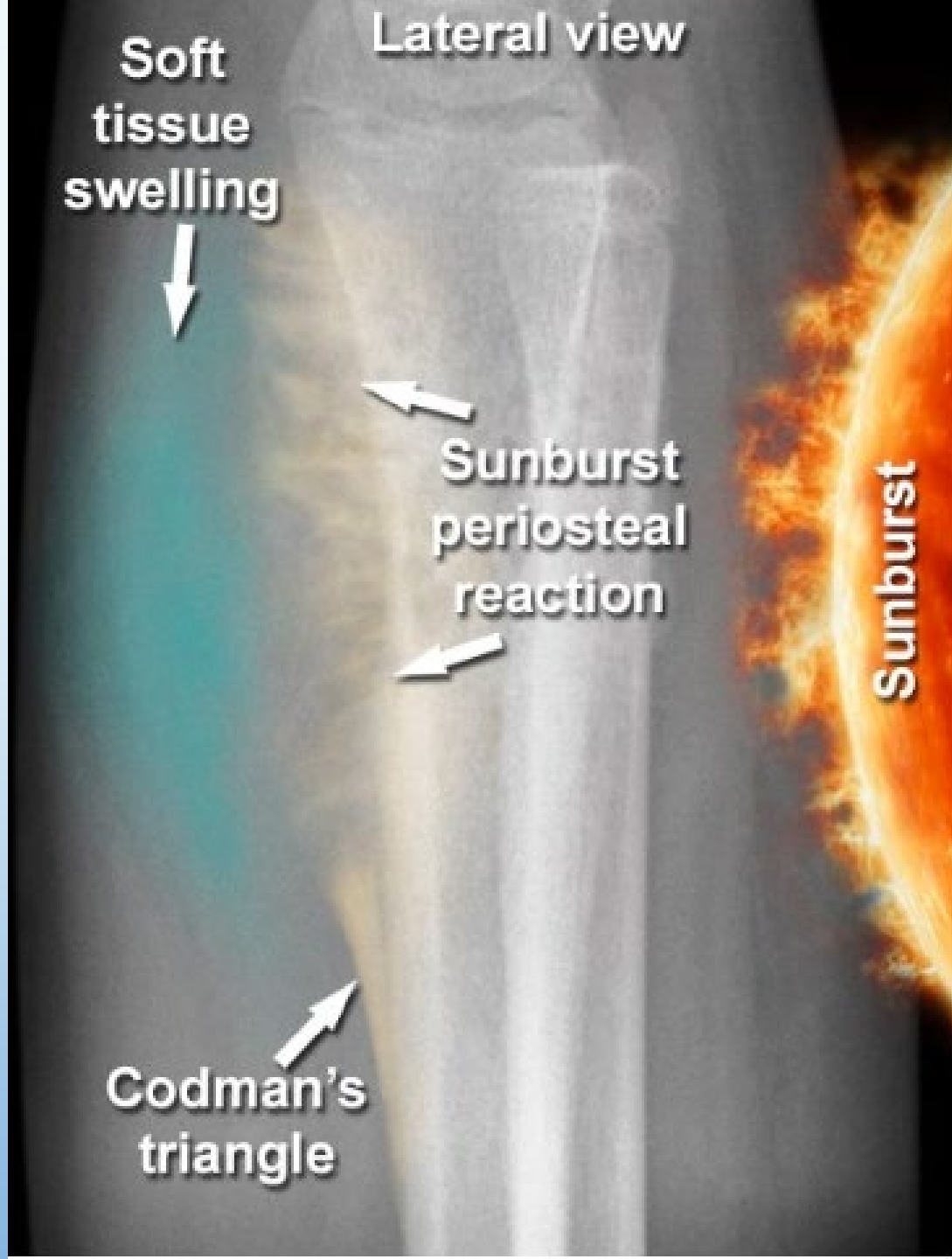
B



C

Lateral view





CHONDROSARCOMA

- MOST COMMON MALIGNANT BONE TUMOR, WHICH IS ALMOST ALWAYS LOW-GRADE
- PRIMARY SITES OF ORIGIN:
PROXIMAL LONG BONES, AROUND KNEE, PELVIS AND SHOULDER GIRDLE, USUALLY CENTRAL AND METAPHYSEAL
- RADIOLOGICAL HALLMARK:
FORMATION OF A CHONDROID (CARTILAGENOUS) MATRIX, WHICH PRESENTS AS PUNCTUATED, STIPPLED OR POPCORN-LIKE CALCIFICATIONS.





GIANT-CELL TUMOR OF BONE



CHONDROBLASTOMA

- WELL-DEFINED OSTEOLYTIC LESION IN TARSAL BONE, PATELLA OR EPIPHYSIS OF A LONG BONE IN A 20-YEAR OLD WITH PAIN AND SWELLING IN A JOINT.
- ABUNDANT EDEMA IS ALMOST ALWAYS PRESENT.





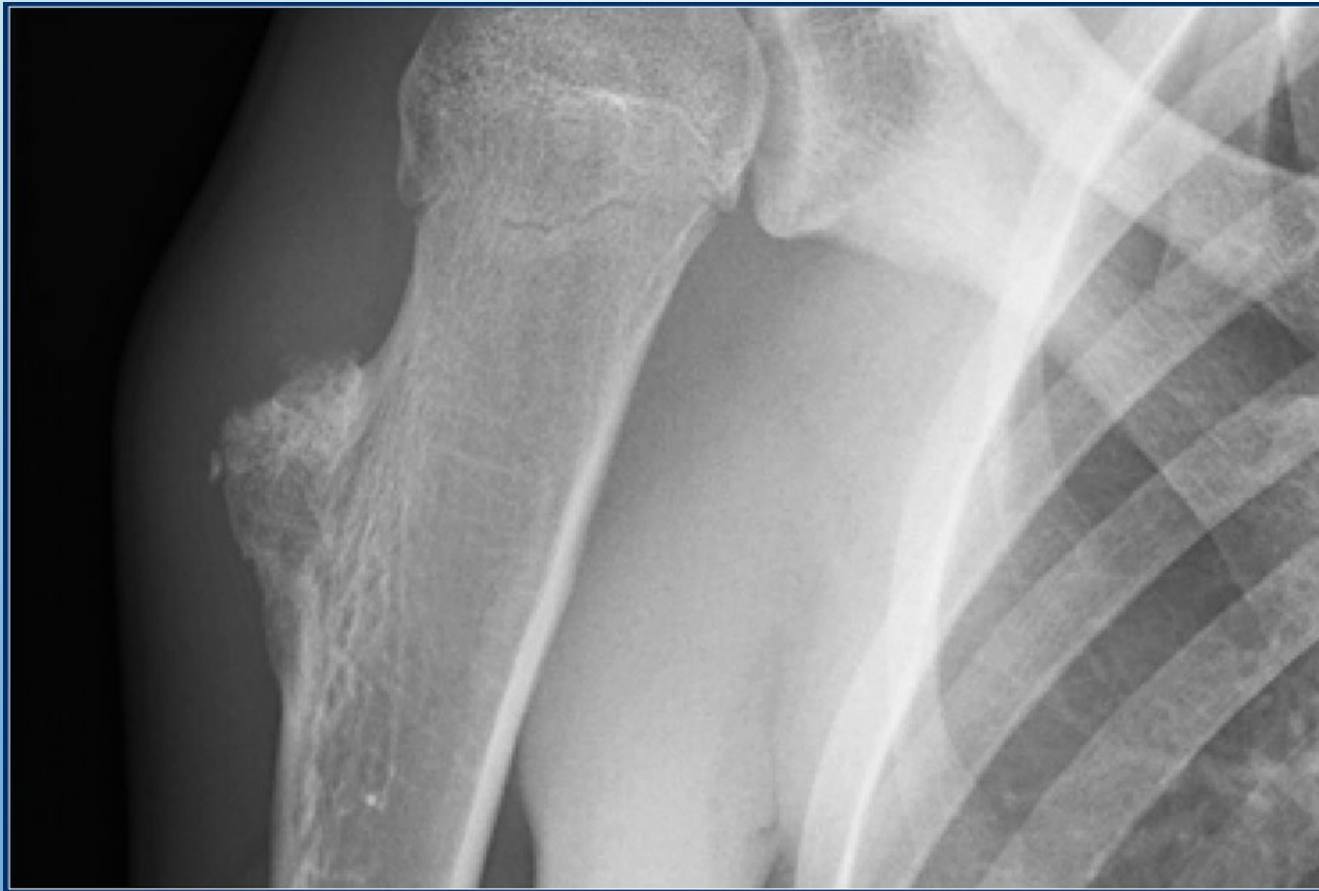
ENCHONDROMA

- MOST COMMONLY ENCOUNTERED BONE TUMOR IN THE SMALL BONES OF THE HAND AND FOOT.



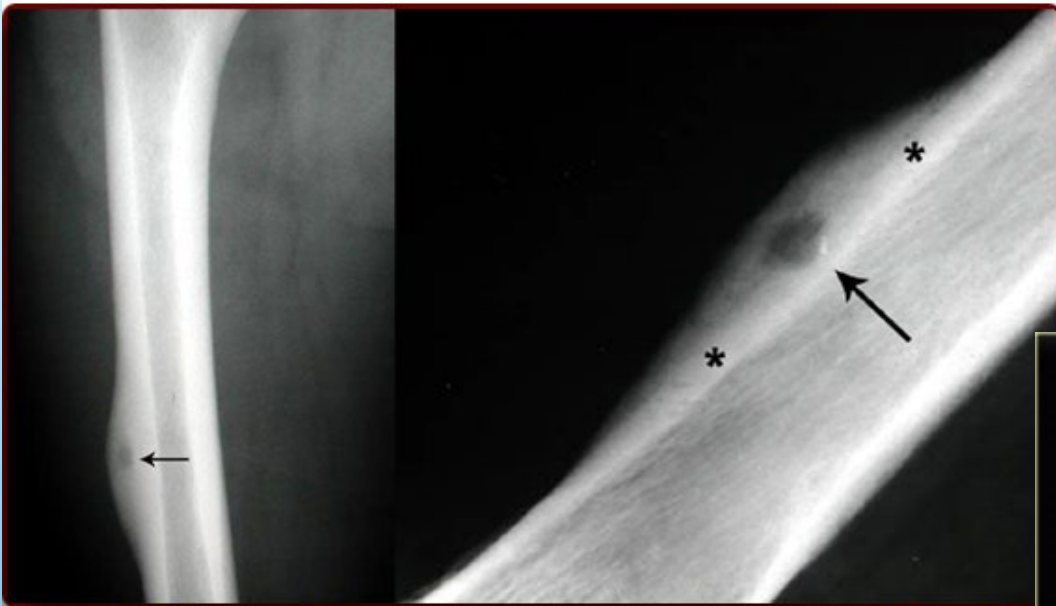
OSTEOCHONDROMA

- OSTEOCHONDROMA IS A BONY PROTRUSION COVERED BY A CARTILAGINOUS CAP.

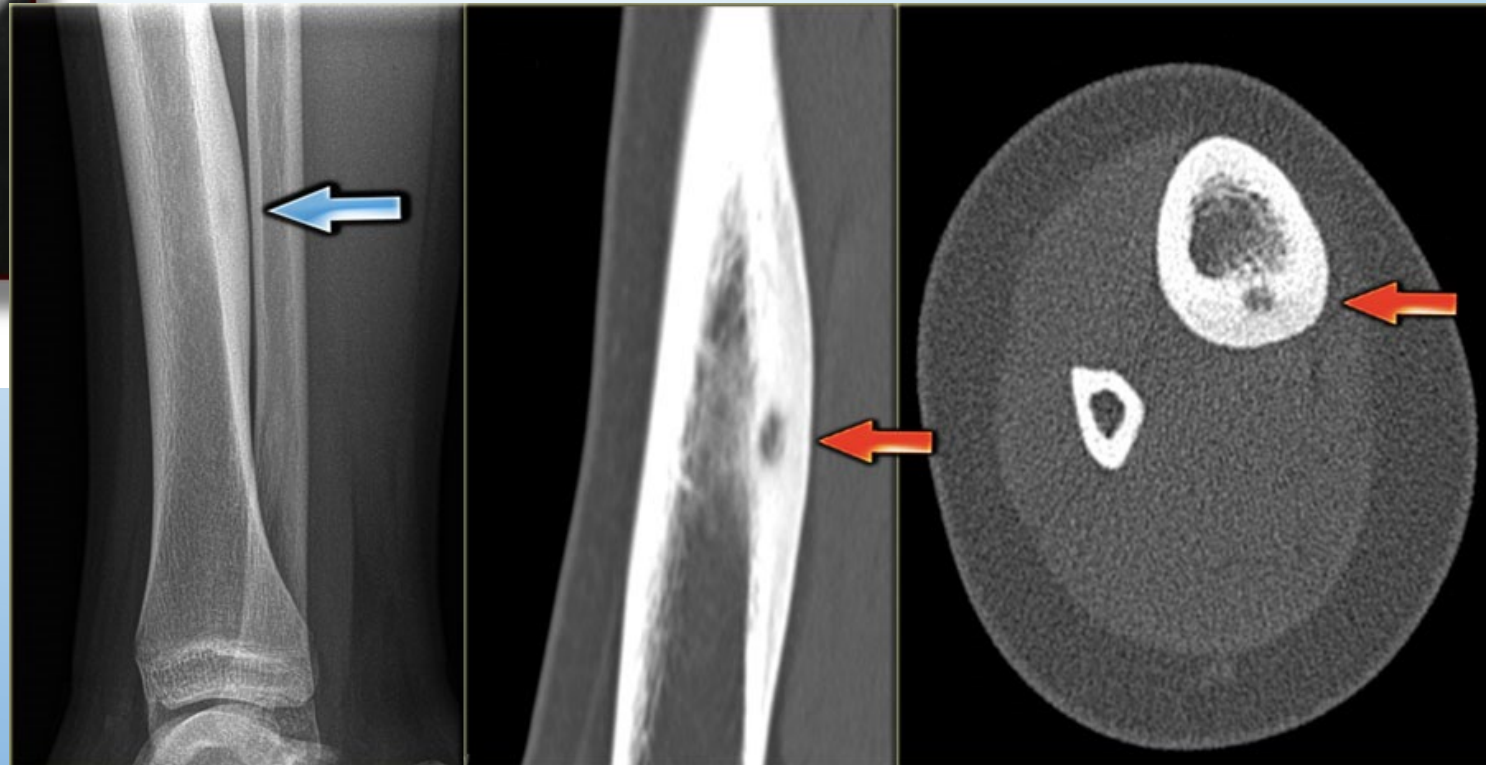




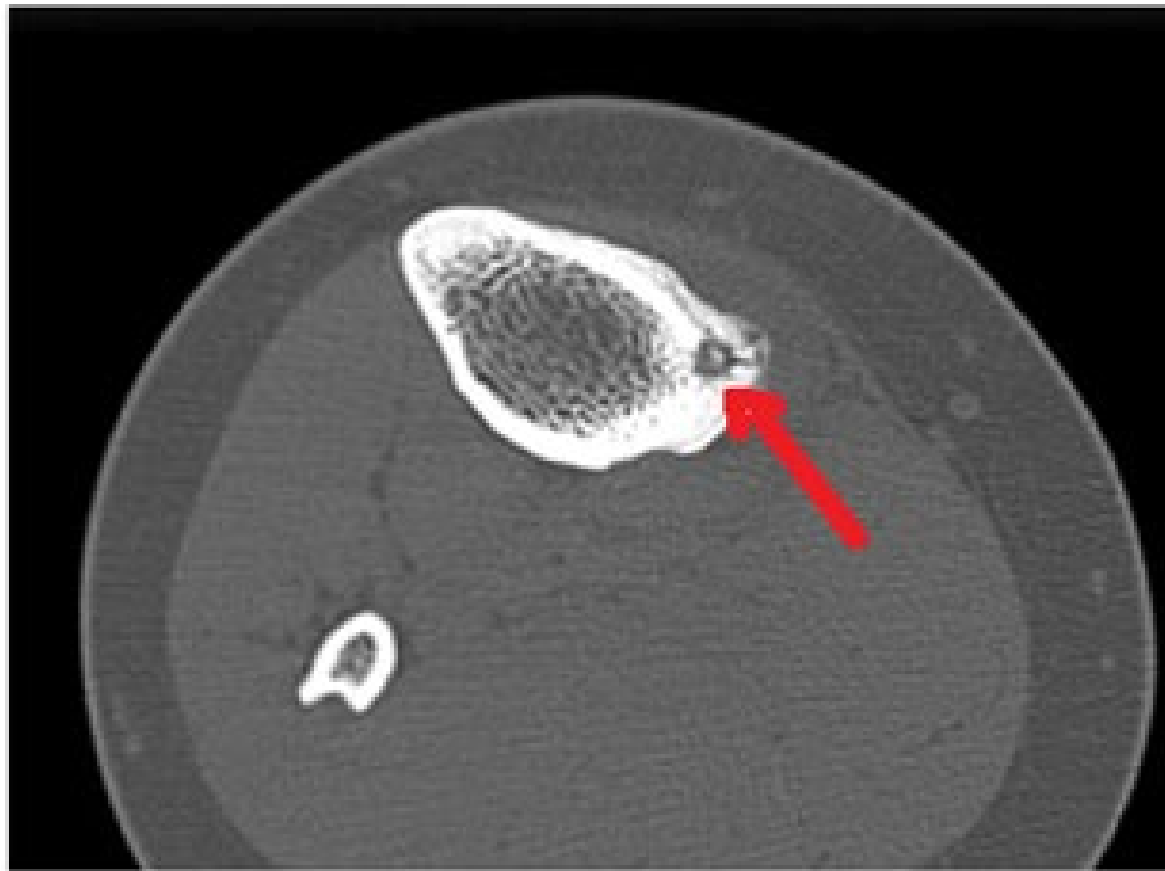
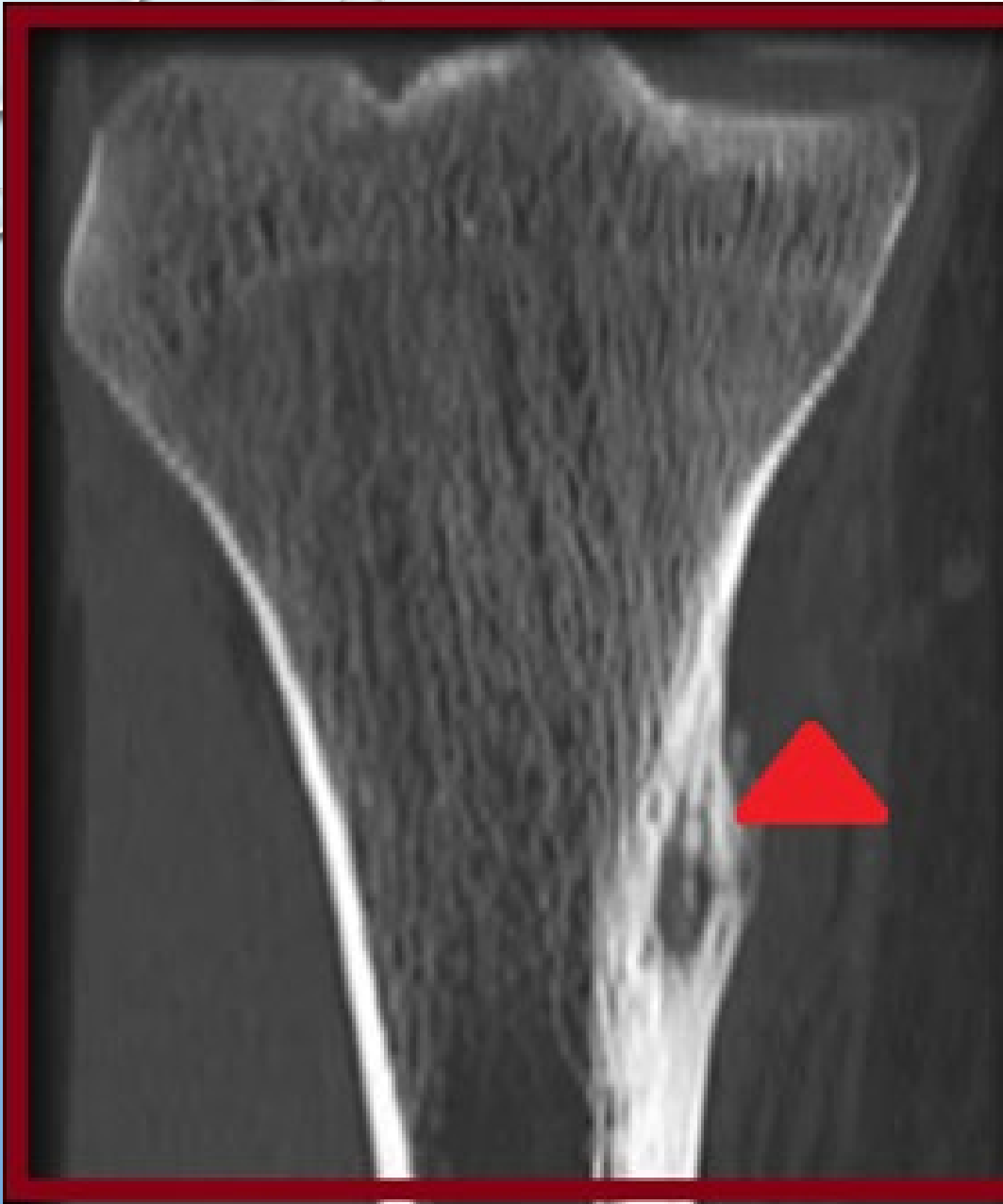
OSTEOID OSTEOMA



Osteoid Osteoma Tumors:
Diagnosis and Treatment Using Radiofrequency Thermal Ablation







Bone Lesions Age < 30



Bone Lesions Age > 30

