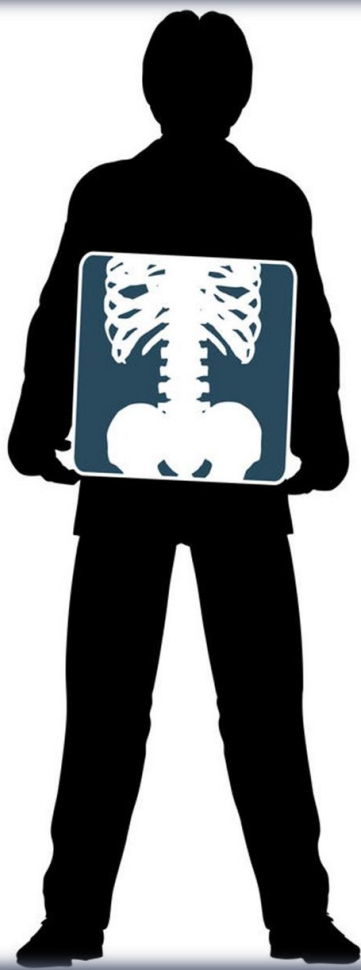




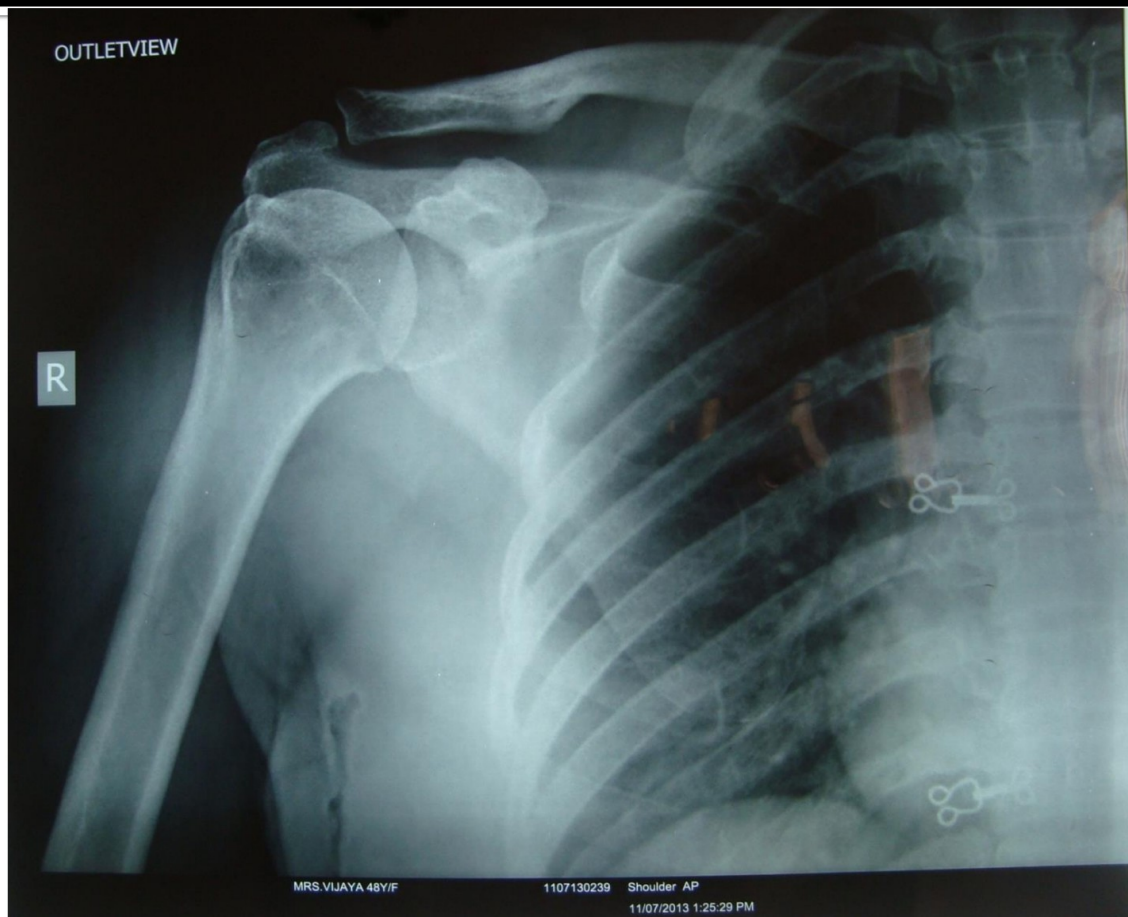
Radiology

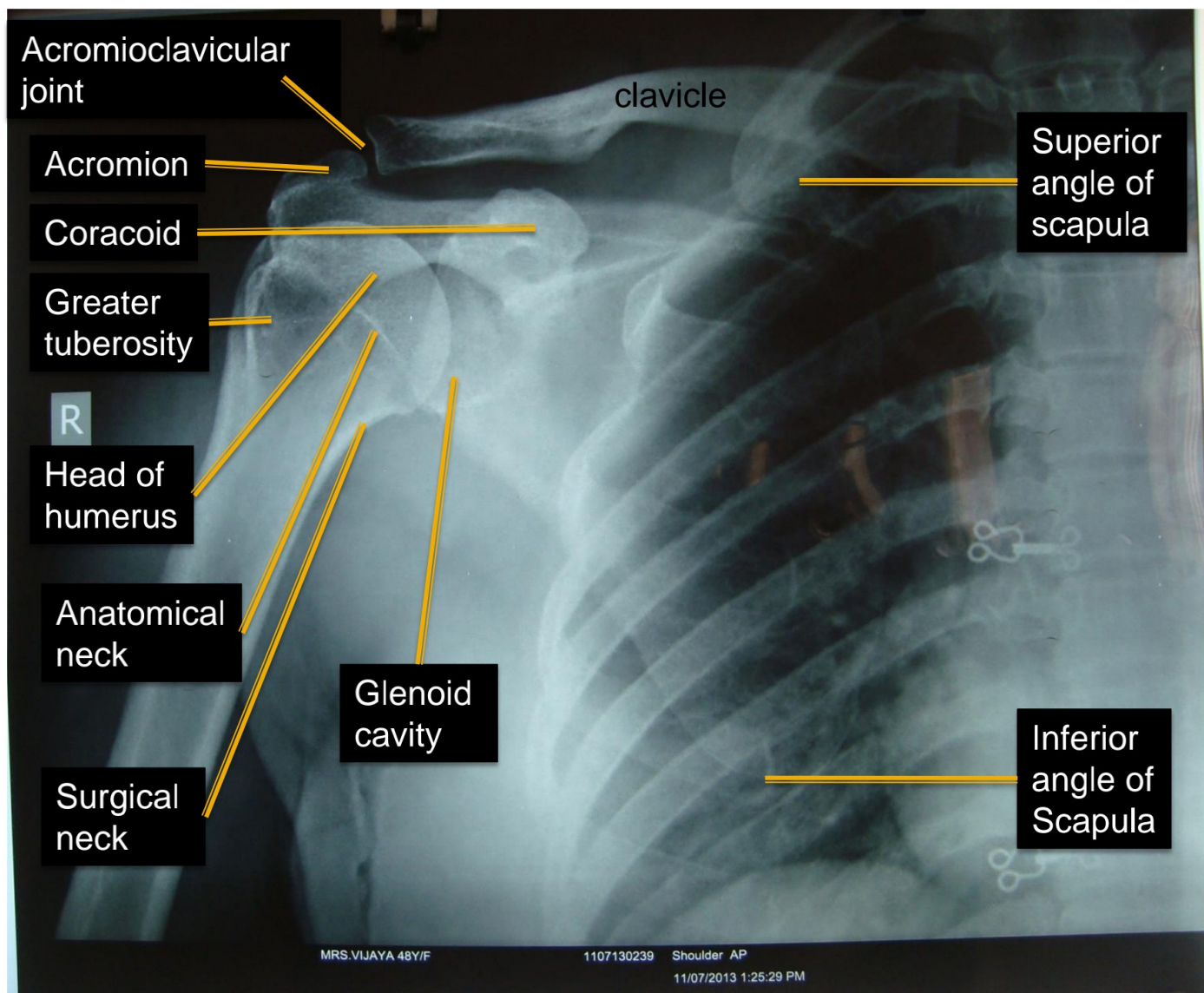
David Ebenezer A
Department of Anatomy
Velammal Medical College
Madurai

Indication for plain X-ray of Limbs

- Fracture
- Dislocation
- Age estimation in medico-legal cases
- Infections(osteomyelitis) and cancer
- Arthritic changes- knee & hip joint

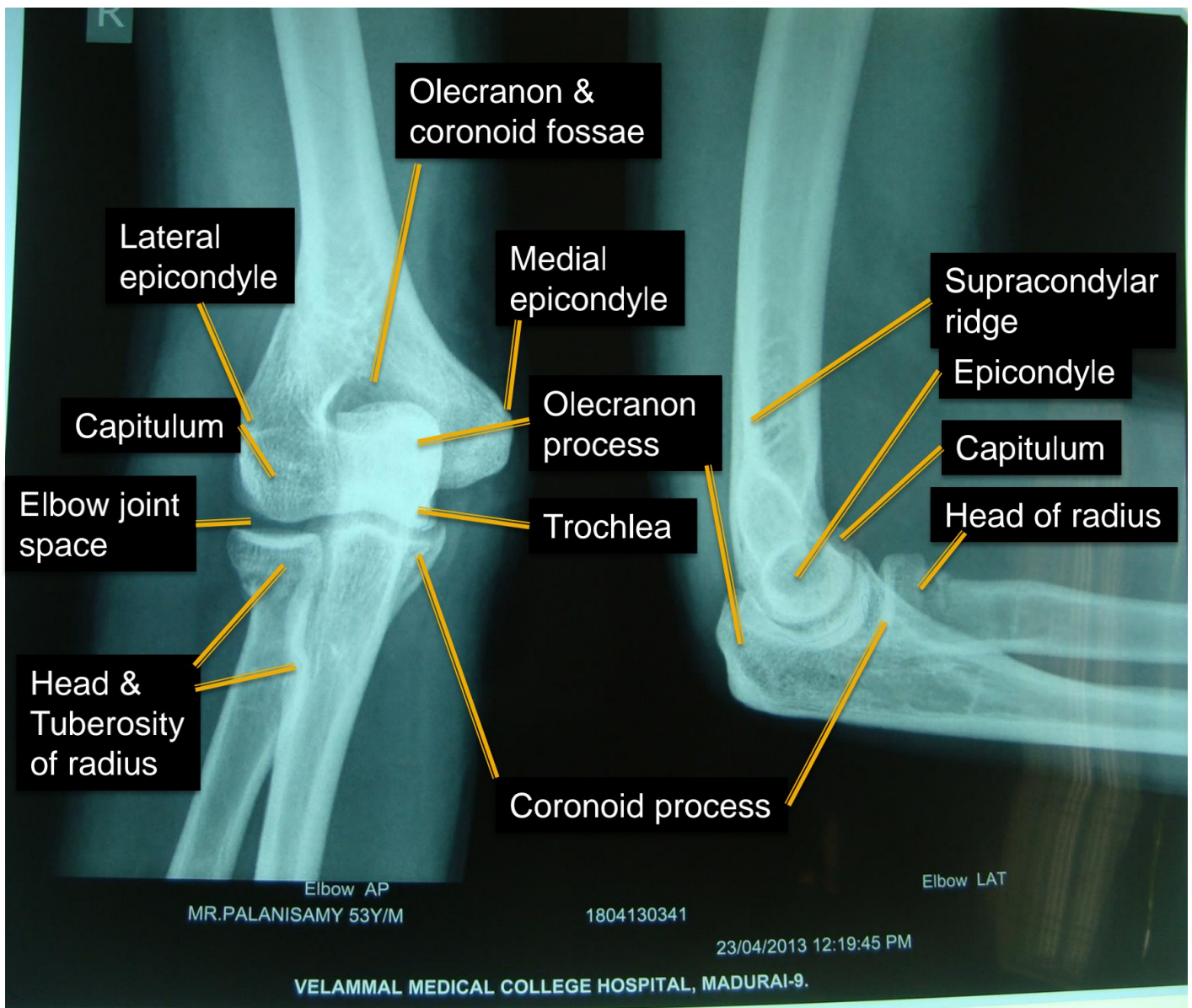
Plain X-ray Right(R) shoulder





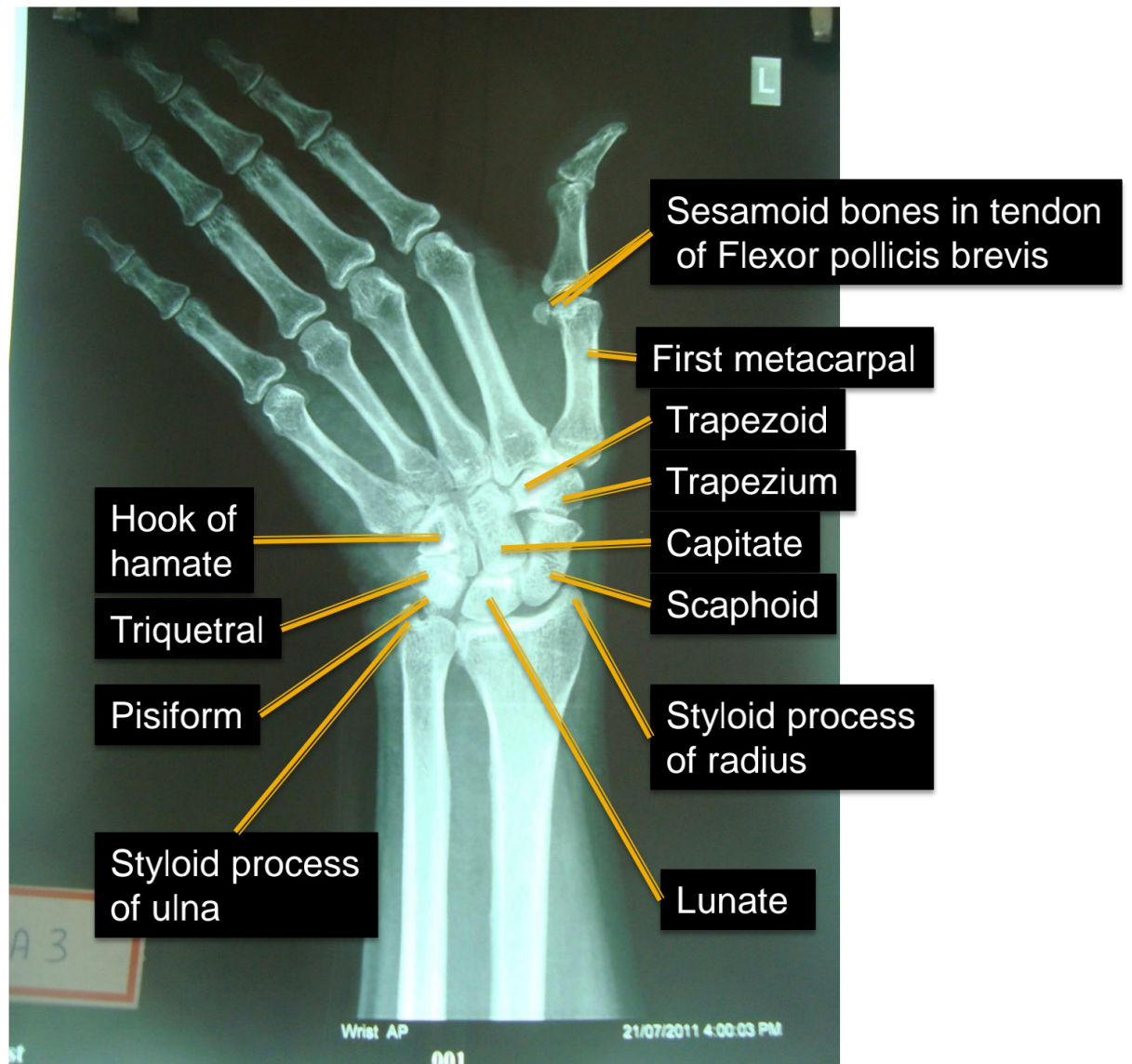
Plain X-ray R elbow AP & lat





Plain X-ray wrist & hand AP





What is sesamoid bone?

- **Definition**

- Bony nodules embedded in tendon

- **Features**

- No periosteum
- Ossify after birth

- **Functions**

- Alter direction of pull of muscles
- Resist pressure
- Minimize friction

Locations of sesamoid bones

Patella (largest)	Quadriceps tendon	
Fabella (sometimes present)	Lateral head of gastrocnemius	
Pisiform	Flexor carpi ulnaris	
Unnamed (in thumb)	Flexor pollicis brevis	
Unnamed (in great toe)	Flexor hallucis brevis	

Plain X-ray Pelvis AP

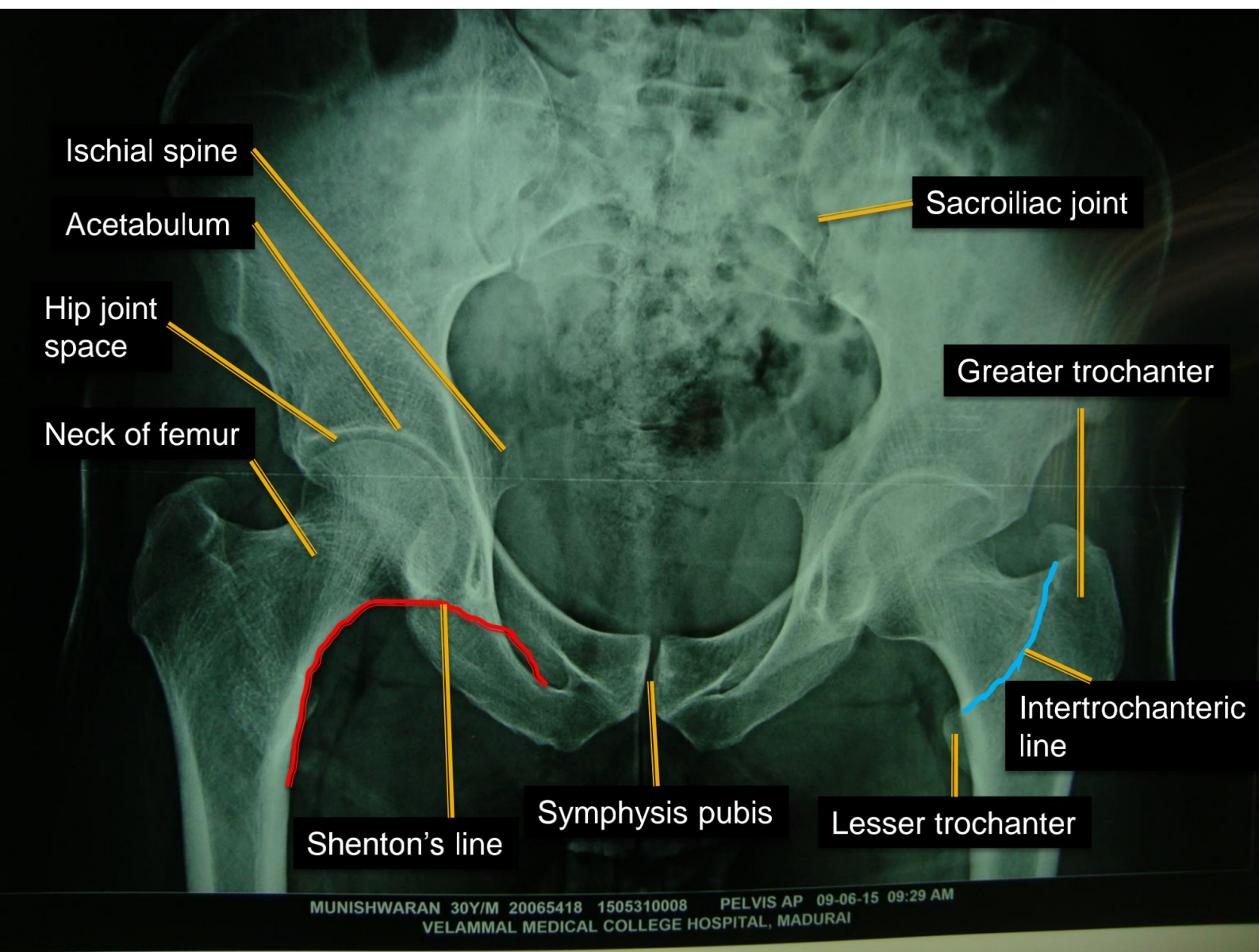


Plain X-ray Pelvis AP

- Shenton's line

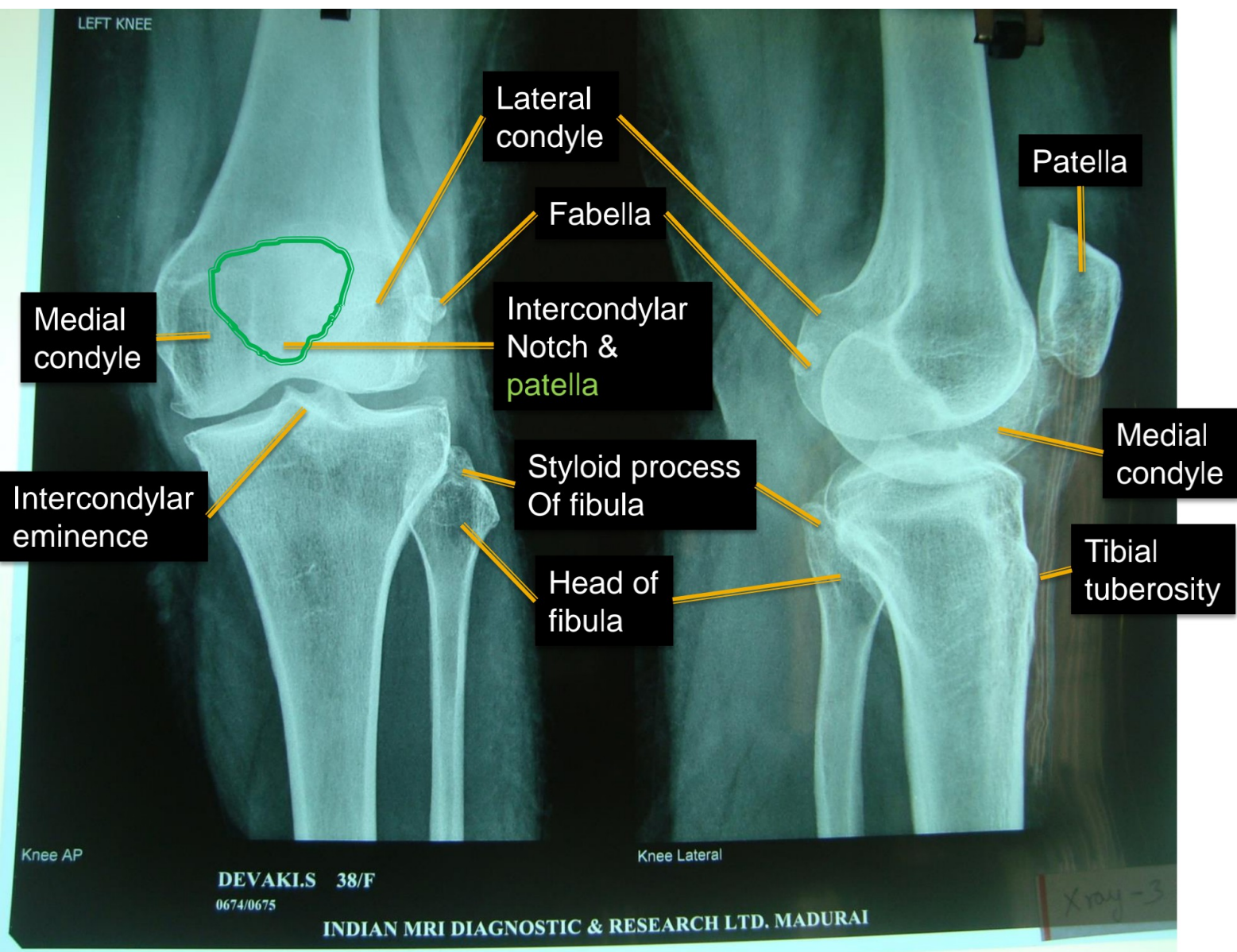
It is a continuous curve formed by upper border of obturator foramen and lower border of neck of femur

Continuity is broken in dislocation of hip joint or fracture neck of femur



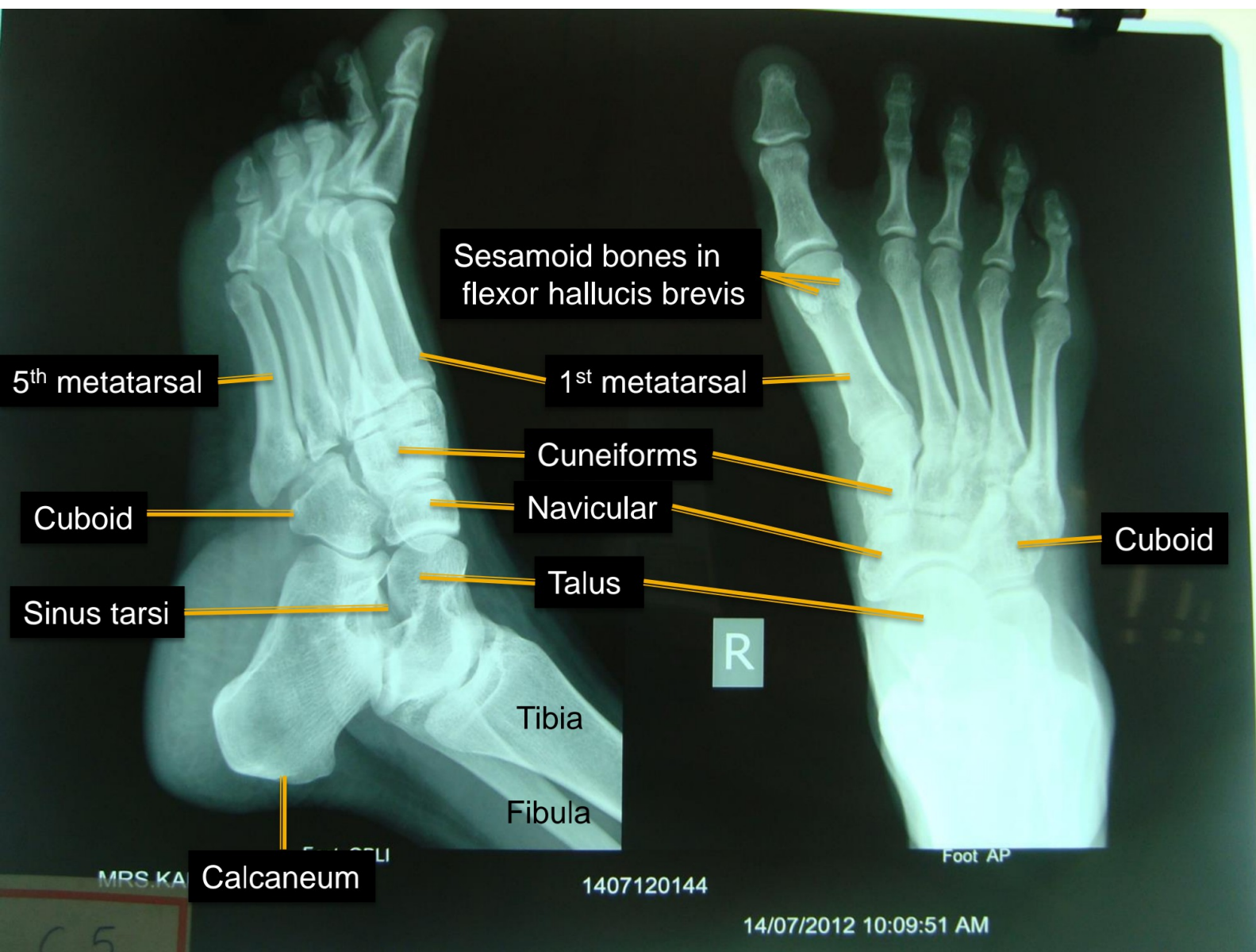
Plain X-ray L knee AP & Lat



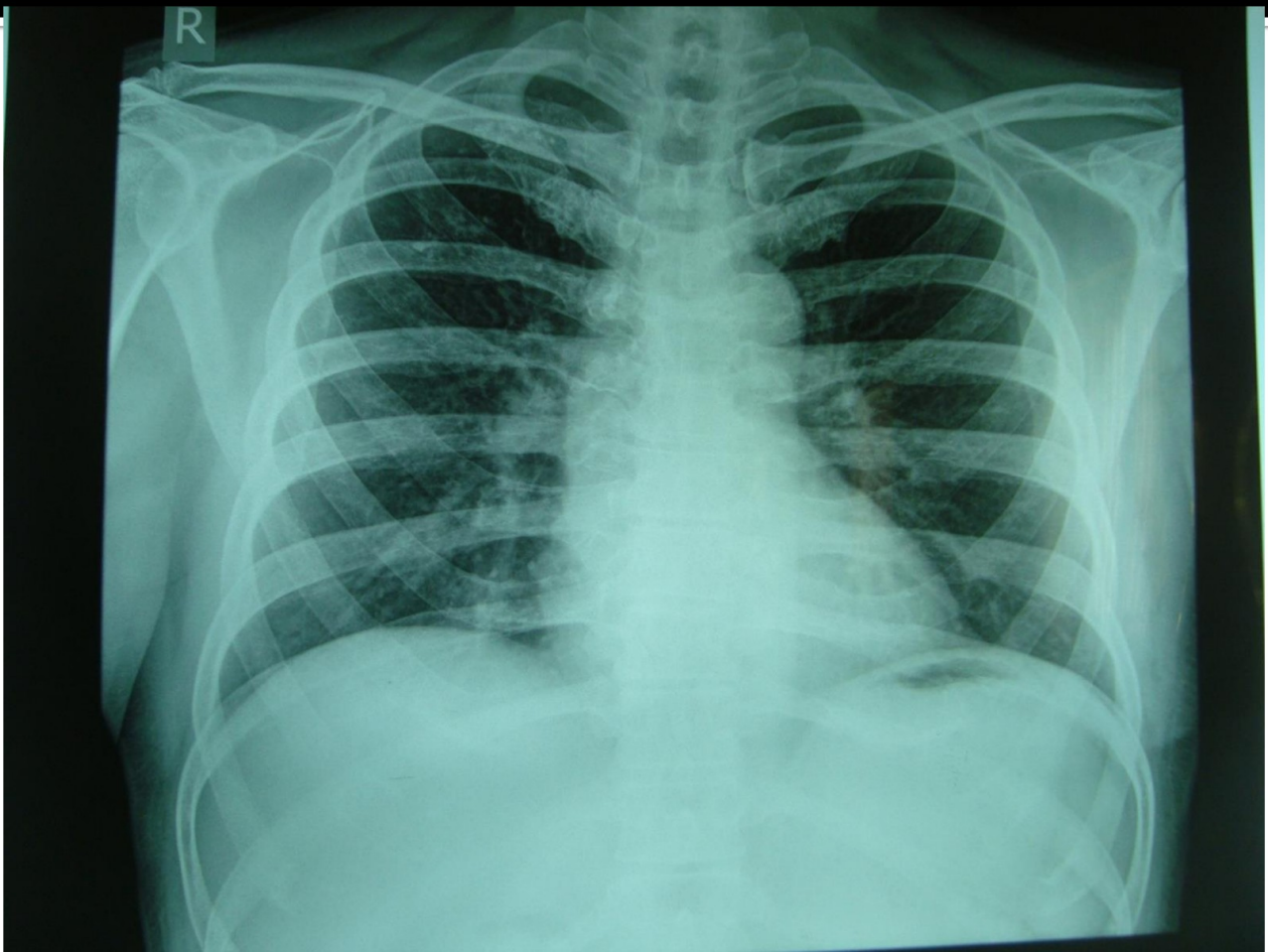


Plain X-ray foot. Obli & AP





Plain X-ray. Chest PA view

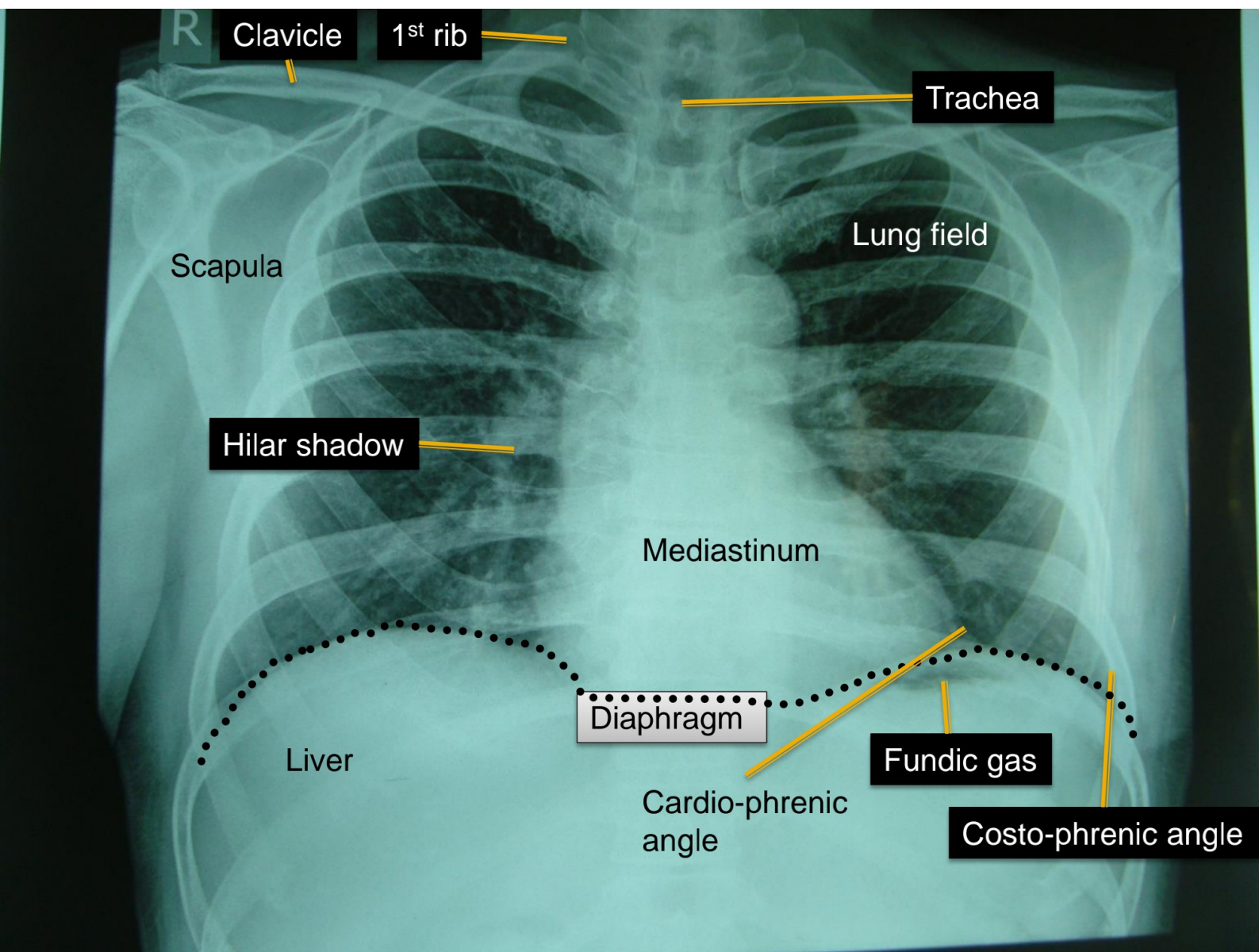


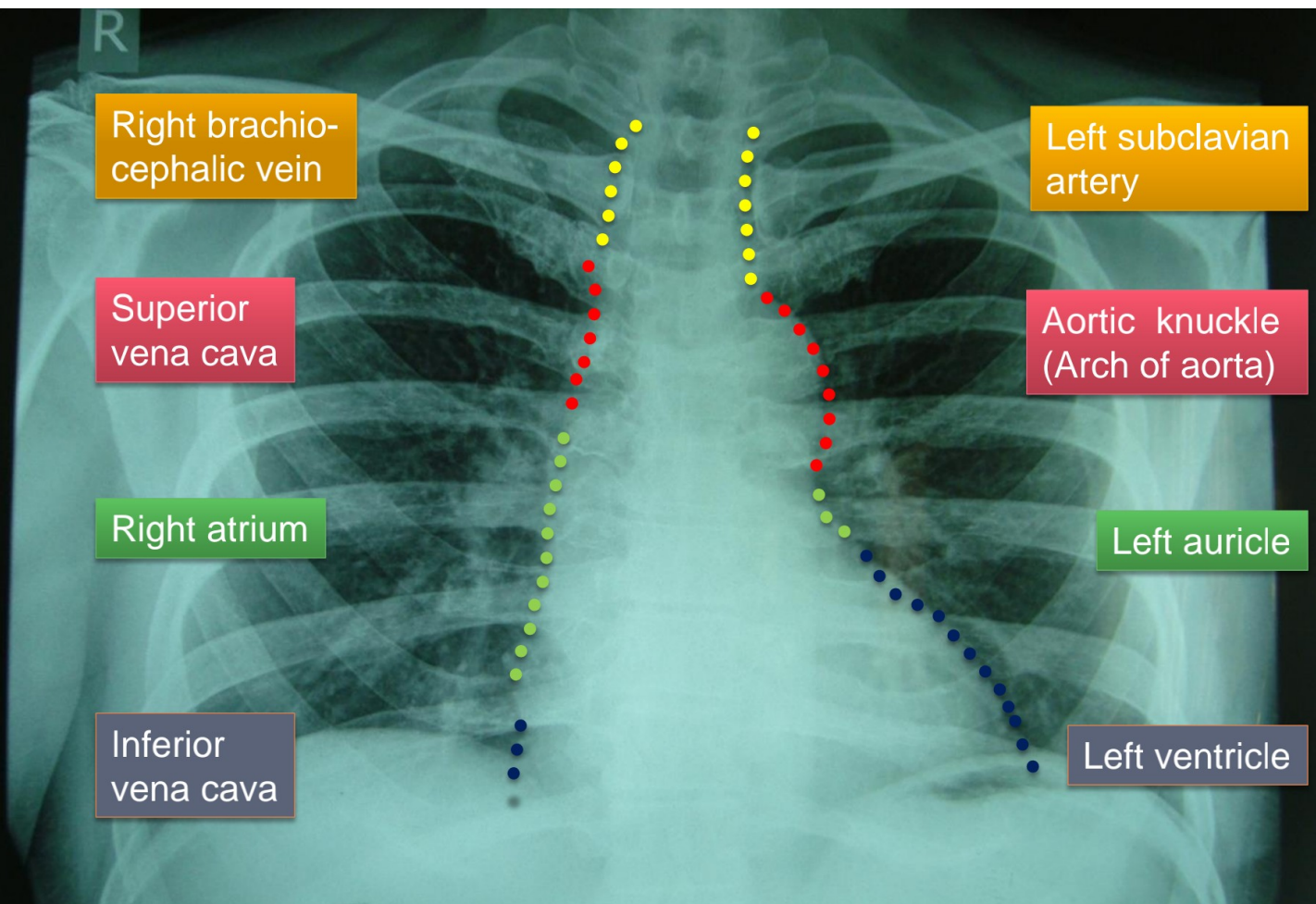
General features for chest X-ray

- Lung & tracheal shadow are *radiolucent* (black) due to air.
- Hilar shadow – bronchi, blood vessels & lymphatics.
- Posterior part of ribs are more *radiopaque* (white) due to high calcium.
- Costal cartilage not seen unless calcified.
- Normal transverse diameter of mediastinum should be half of the transverse diameter of thoracic cage

Chest X-ray indication

- Chronic cough
- Rib fracture
- Pleural effusion/ pneumothorax
- Cardiomegaly





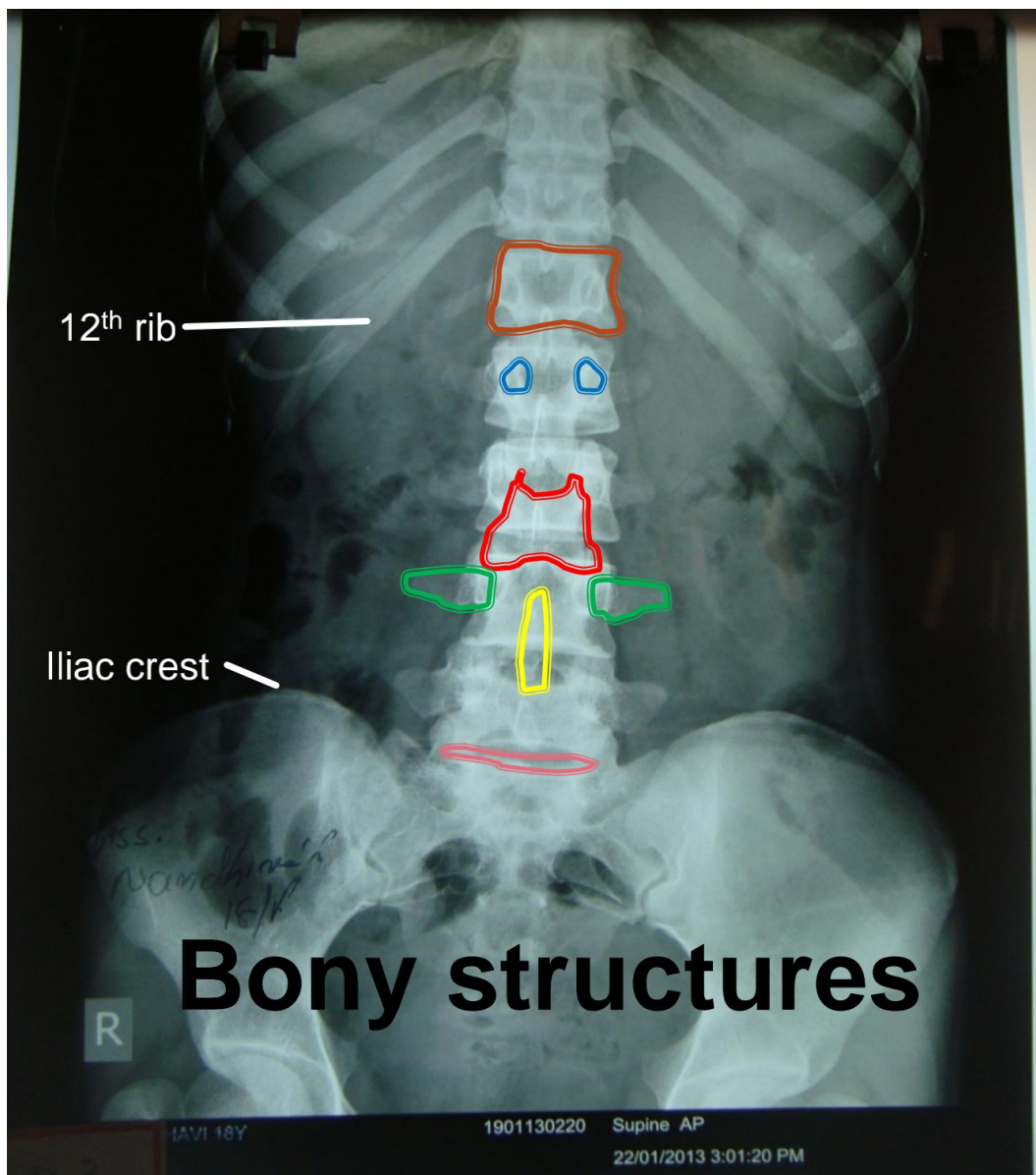
Structures forming right & left borders of mediastinum

Plain X-ray KUB



Indications for plain X-ray KUB

- Stones in urinary tract
- Gall stones
- Intestinal obstruction



Vertebral body

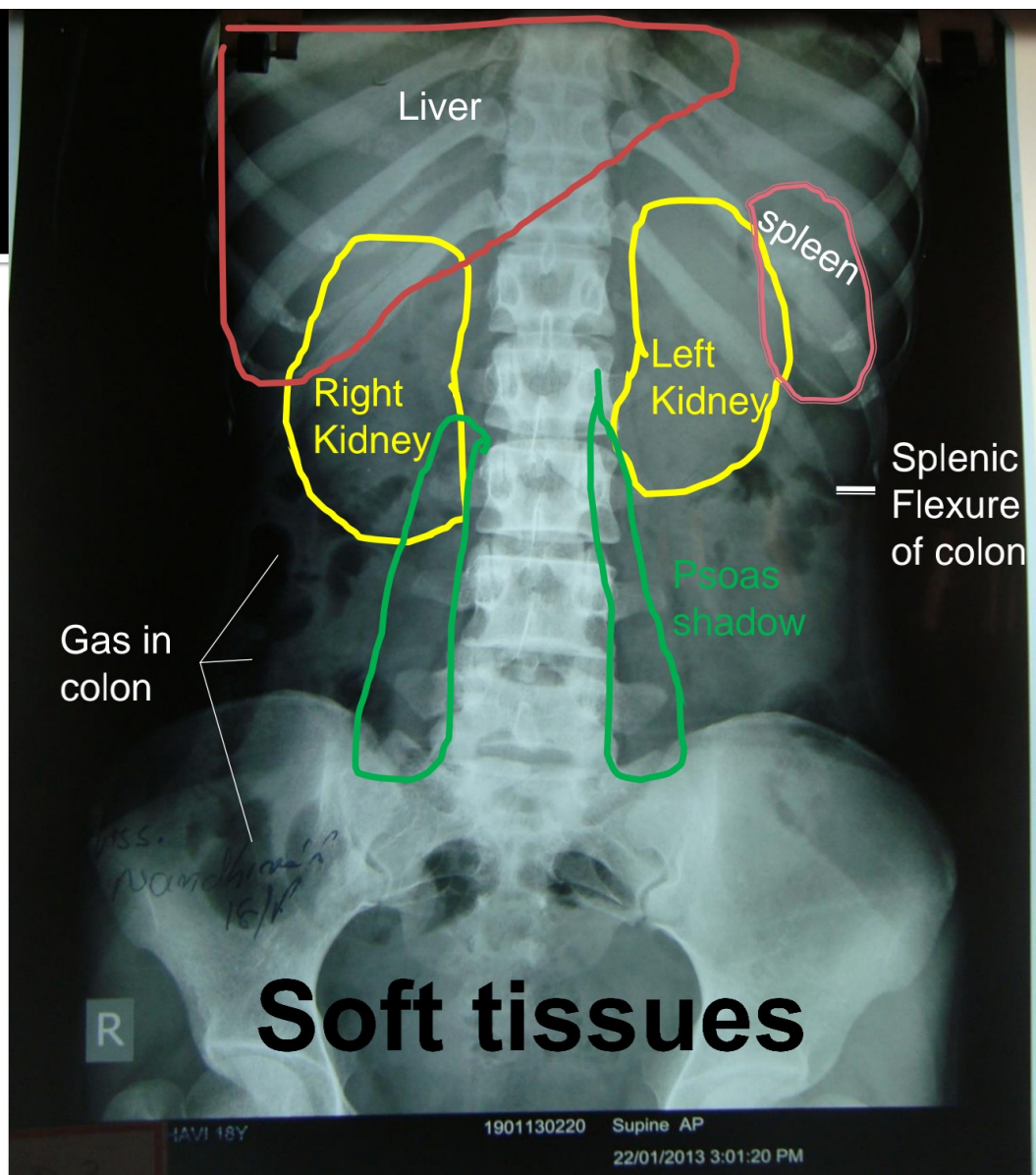
Pedicle

Lamina

Transverse process

Spinous process

Intervertebral disc



Barium swallow



Barium swallow

■ Indications

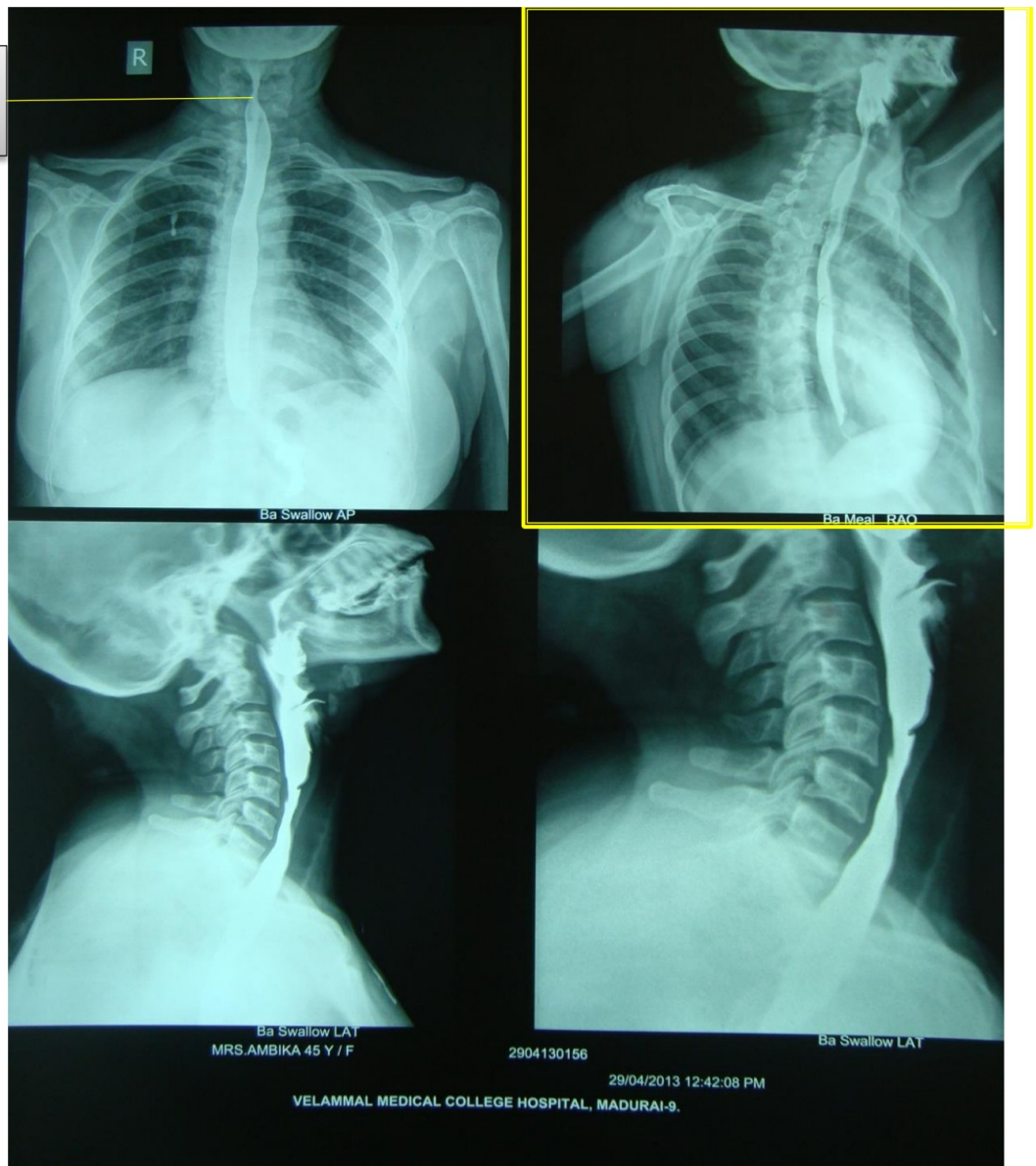
- Dysphagia
- Gastro-oesophageal reflux disease
- Hiatus hernia
- Generalised epigastric pain

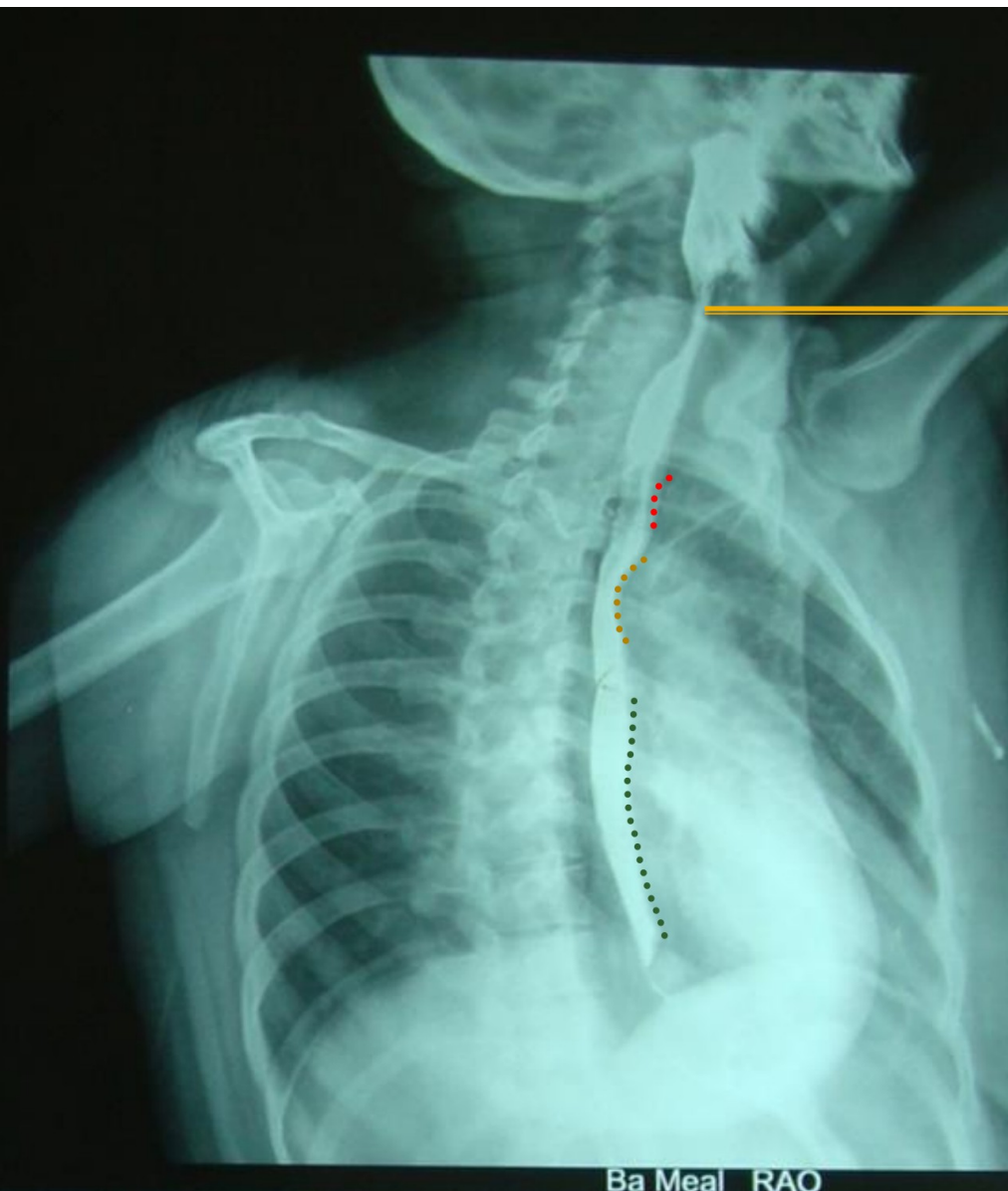
■ Contraindications

- Suspected perforation
- Risk of aspiration
- Suspected tracheo-oesophageal fistula
- Post-operative assessment for leak

■ Contrast medium: Barium sulphate given orally

Pharyngo-oesophageal
junction





Phayngo-oesophageal
junction

Arch of aorta
indentation

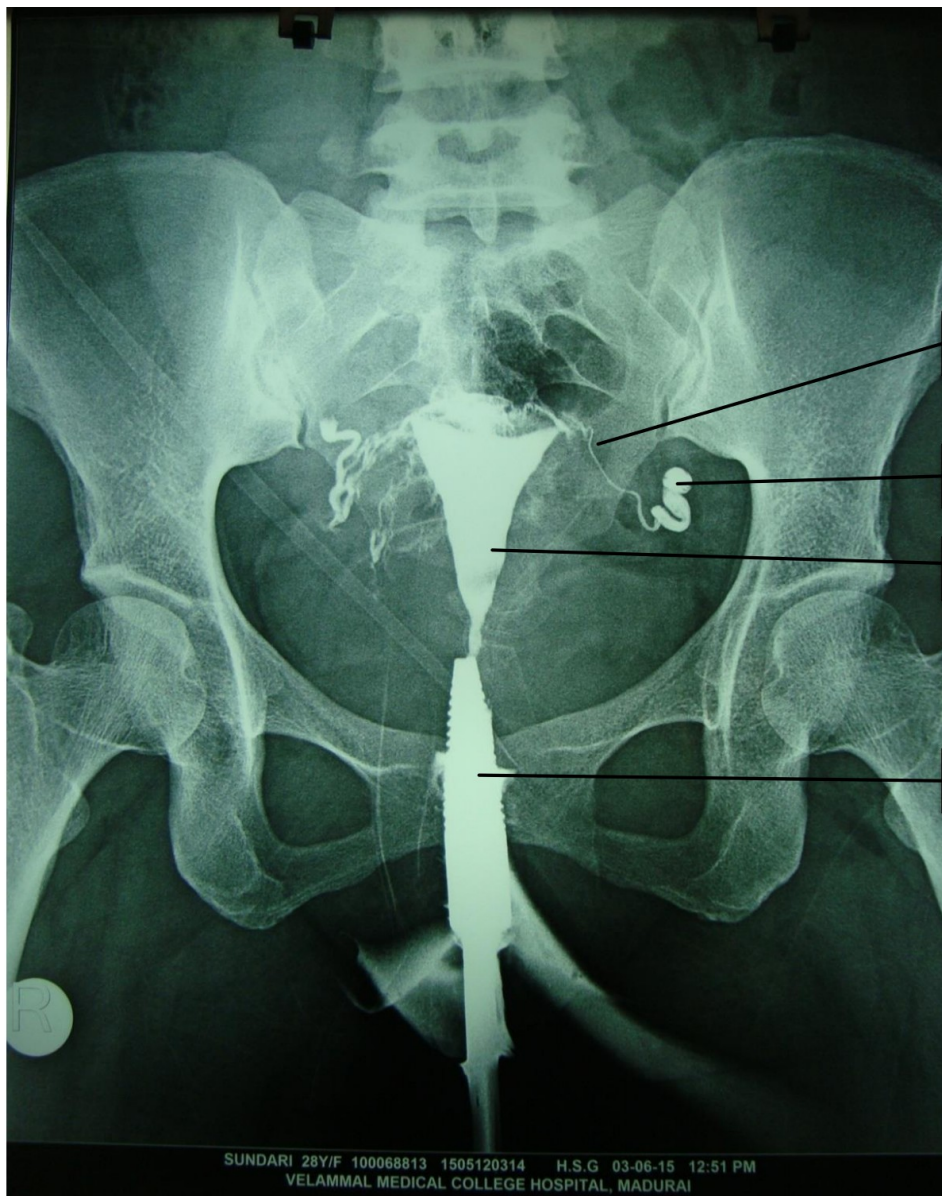
Concavity for
Left bronchus

Concavity for
Left atrium

Ba Meal RAO

Hysterosalpingogram





Fallopian tube

Peritoneal spill

Uterine cavity

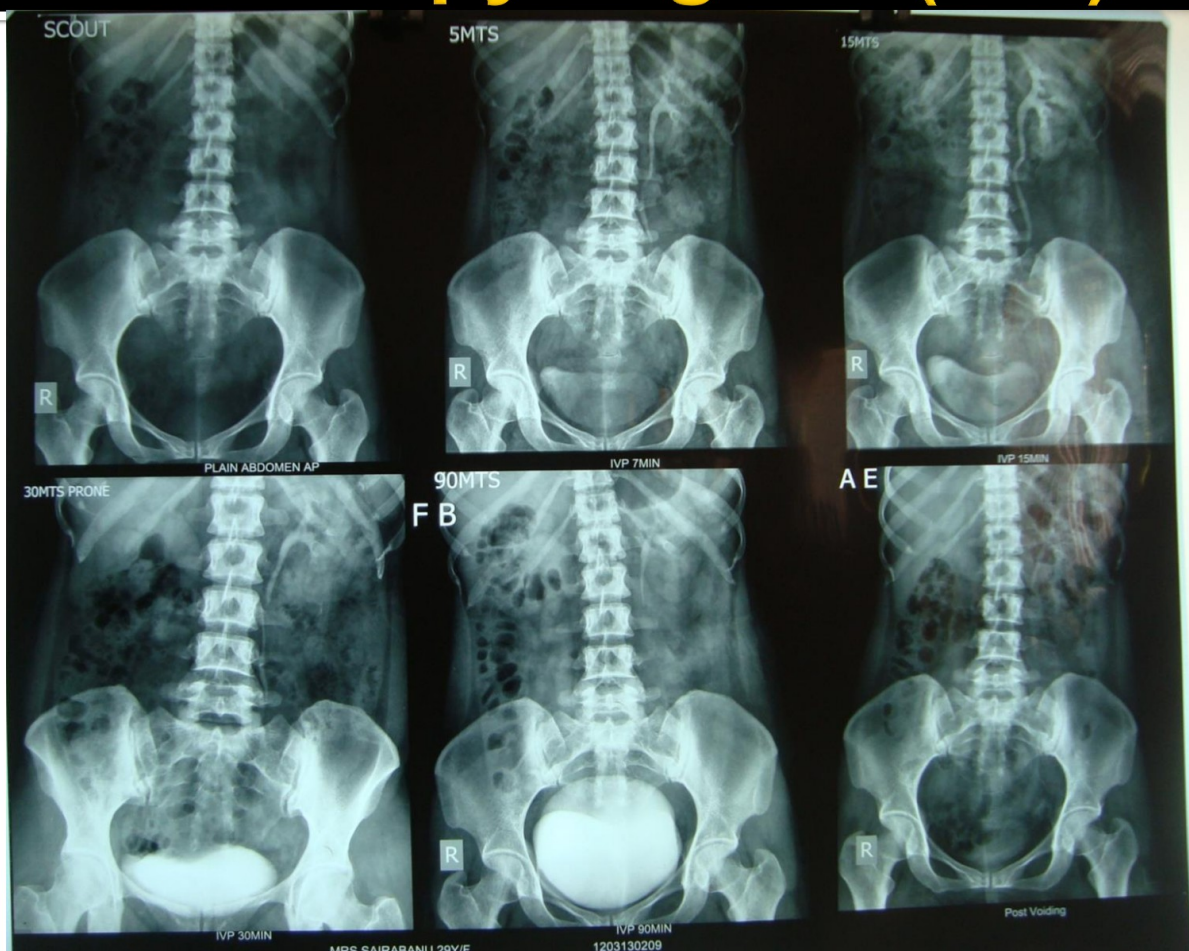
Cannula in vagina

SUNDARI 28Y/F 100068813 1505120314 H.S.G 03-06-15 12:51 PM
VELAMMAL MEDICAL COLLEGE HOSPITAL, MADURAI

Hysterosalpingogram

- Indication
 - Check for fallopian tube patency in infertility
- Contraindication
 - Pregnancy
- Dye used
 - Lipiodol (iodized oil)
- Peritoneal spill confirms tube patency

Descending pyelogram/ Intravenous pyelogram (IVP)



SCOUT

5MTS

15MTS

Plain X-ray
before contrast

R

R

R

PLAIN ABDOMEN AP

IVP 7MIN

IVP 15min

30MTS PRONE

90MTS

F B

Full
bladder

A E

After
evacuation

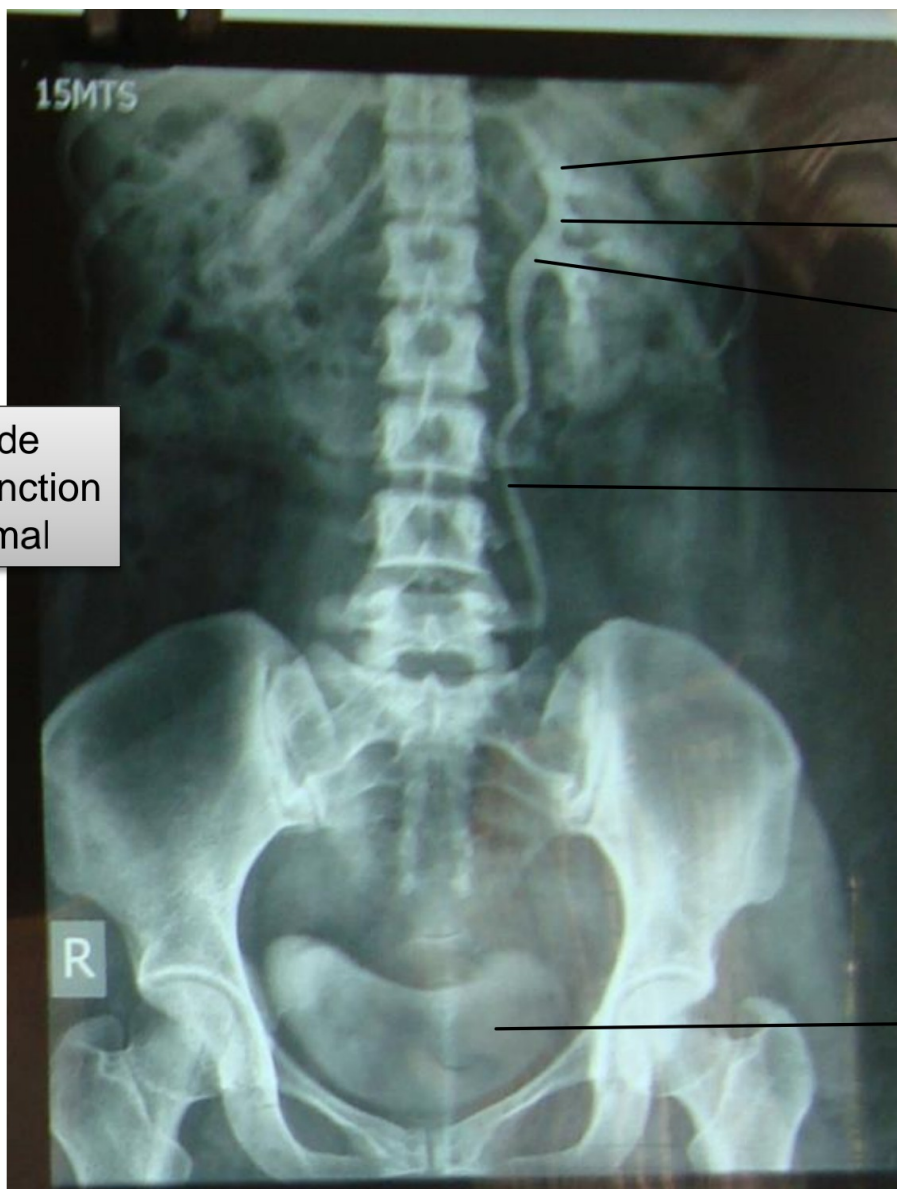
IVP 30MIN

IVP 90MIN

Post Voiding

MRS. SAIRABANU 29Y/F

1203130209



15MTS

Minor calyx

Major calyx

Pelvis of ureter

Ureter

Urinary bladder

Right side
renal function
not normal

R

Descending pyelogram

- **Indications**

- Renal stones
- Infection (pyelonephritis)
- Carcinoma

- **Contraindication**

- Renal failure

- **Contrast medium-** Conray 420, Urograffin (iodine based)

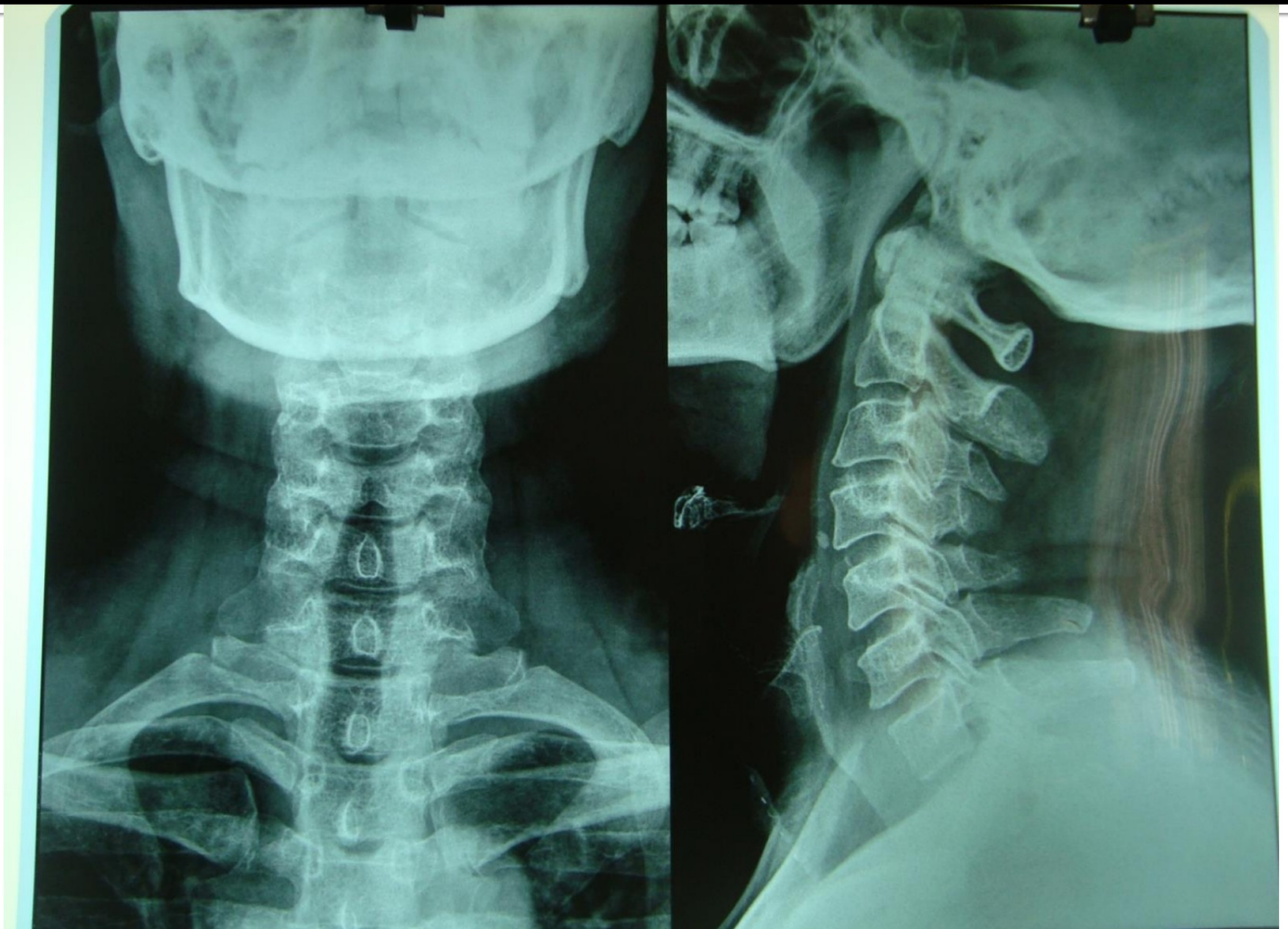
- **Route of administration-** intravenously in upper limb vein

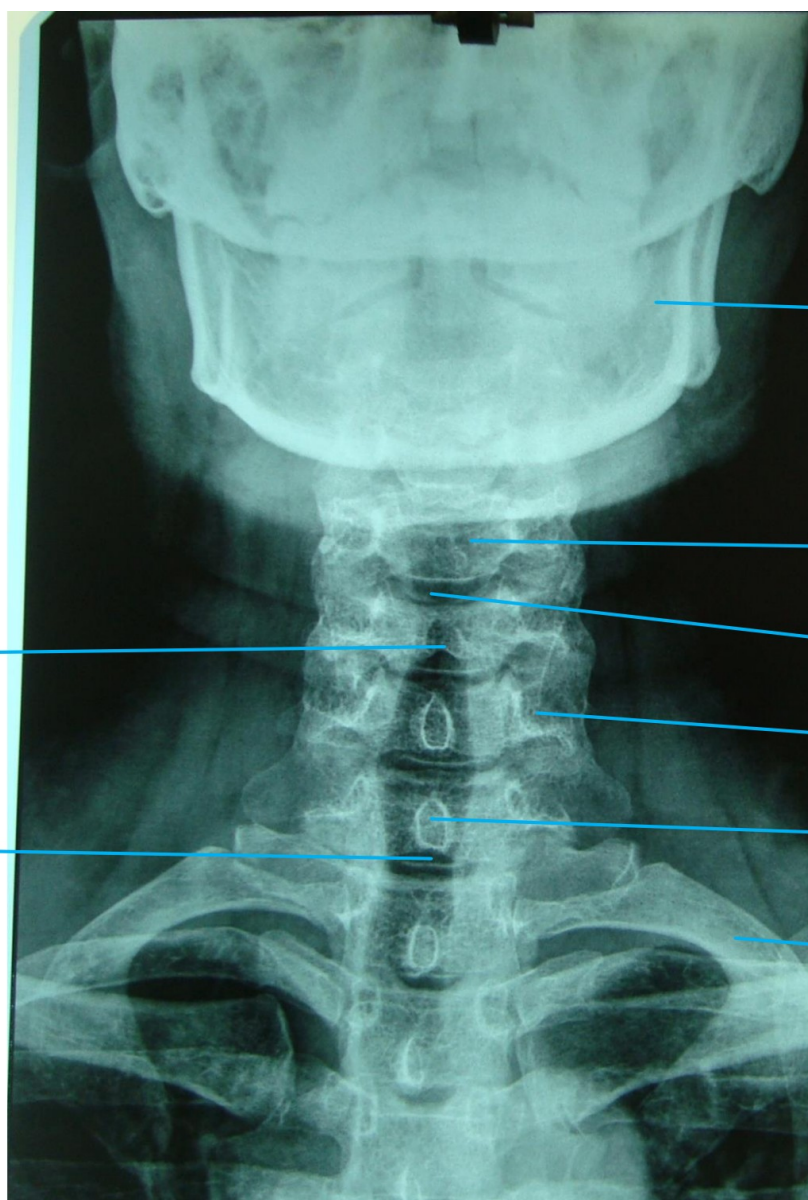
- Used to study the anatomy and functioning of renal system

Types of pyelogram

	Descending / IVP	Ascending / Retrograde
Route of administration	Intravenous via arm vein	Ureteric catheter guided by cystoscope via urethra
Structures seen	Urinary tract visible bilaterally	Only one side urinary tract is visible. Catheter through which the dye is injected can be seen

Plain X-ray cervical spine AP & lat





Mandible

Vertebral body

Intervertebral disc

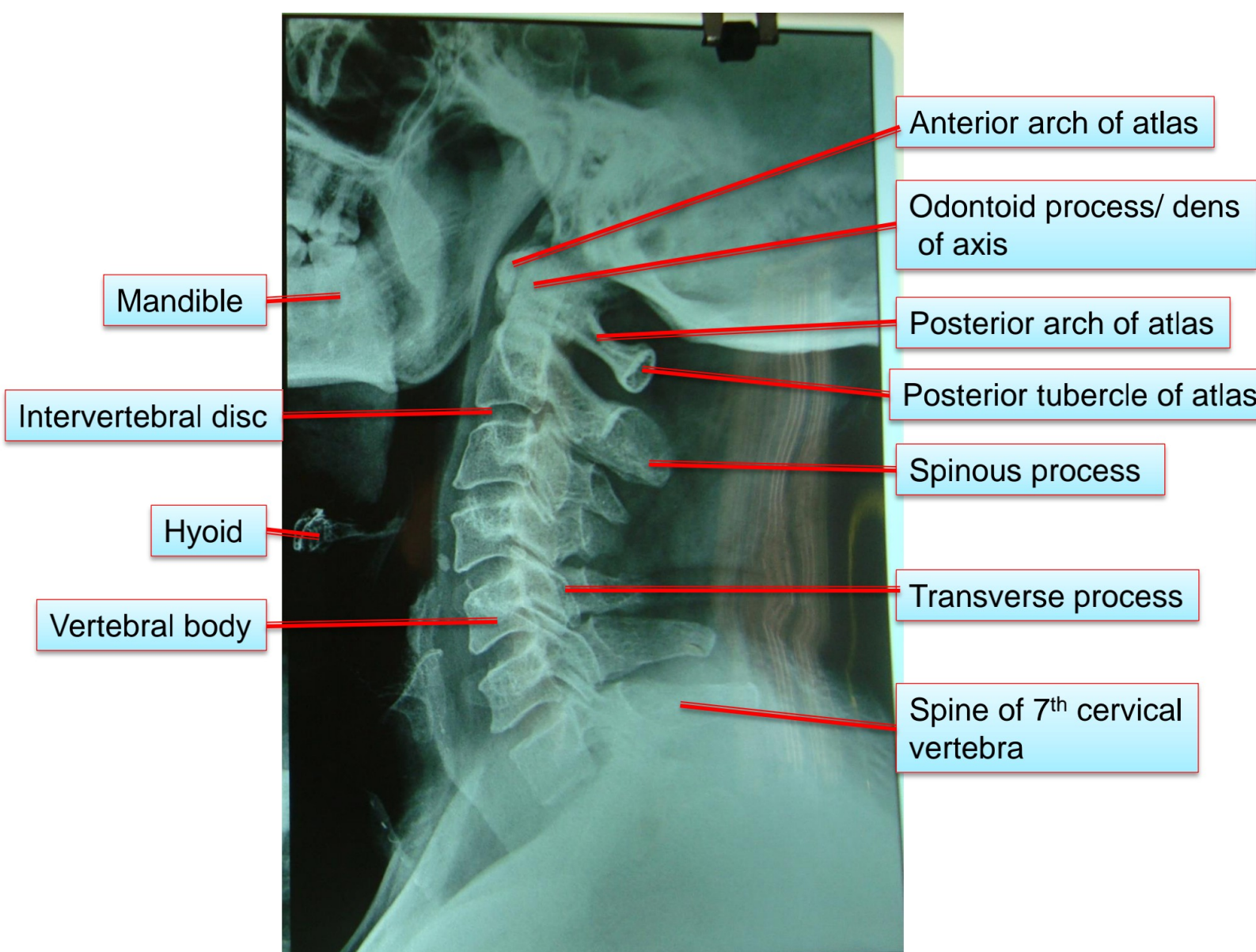
Transverse process

Spinous process

1st rib

Larynx

Trachea

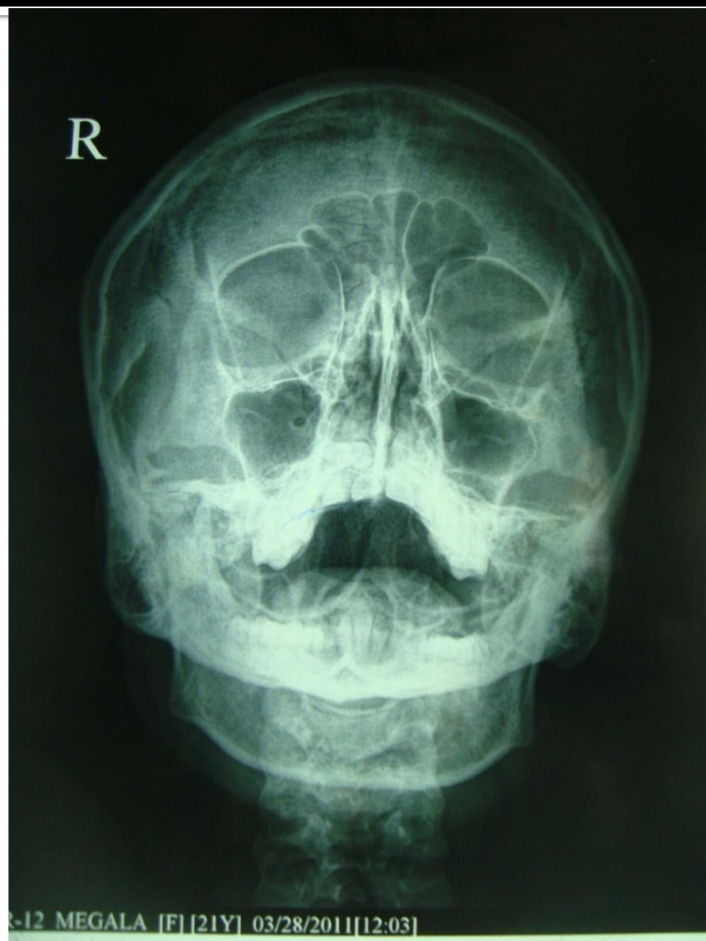


Plain X-ray cervical spine AP & lat

- Fracture, dislocations
- Spinal deformities
- Foreign body in airway
- Osteoporosis
- Bone tumors or cysts
- Cervical spondylosis
- Enlarged tonsils and adenoids (enlarged pharyngeal tonsil)

Skull– Occipito-mental / Water's view

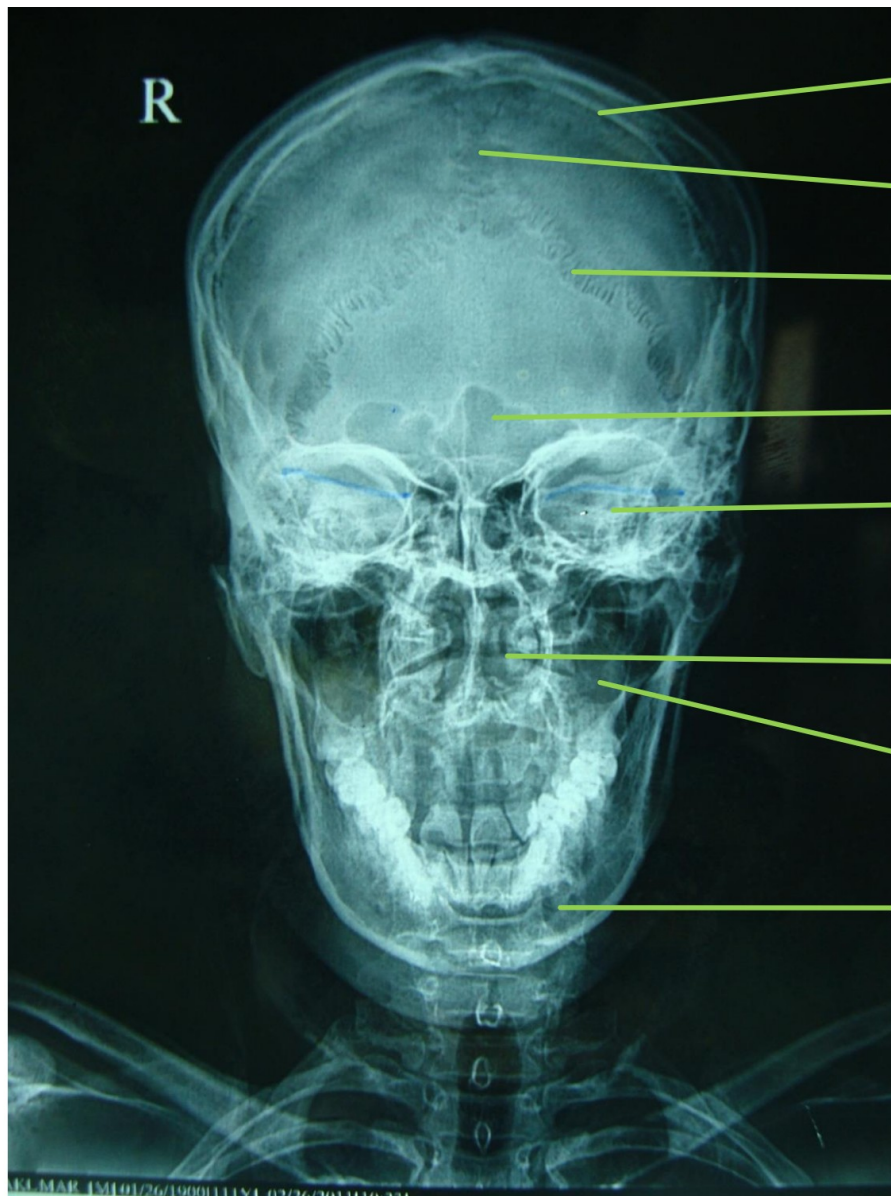
- Indication
 - Sinusitis





Plain X-ray skull AP view





Coronal suture

Sagittal suture

Lambdoid suture

Frontal sinus

Orbit

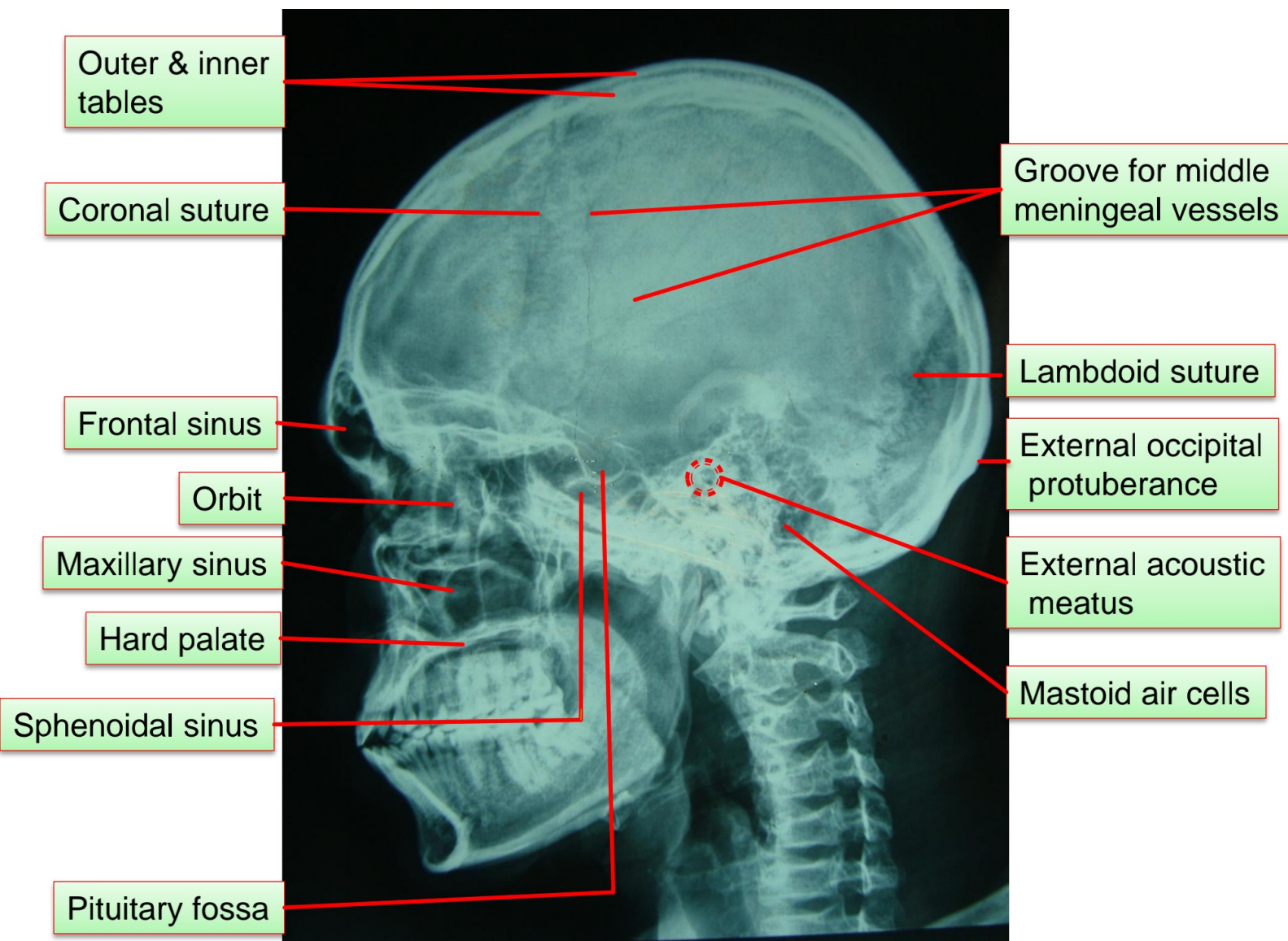
Nasal cavity

Maxillary sinus

Mandible

Plain X-ray skull Lateral view





Plain X-ray skull AP & lateral view

- **Indication:** Fracture

How to differentiate fracture from sutures and vascular markings?

- Sutures have a saw-tooth appearance, whereas fractures form smooth lines
- Vascular markings branch and taper, whereas fractures usually do not branch and taper

*Wish
you all
the very
best*

