

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Radiography Positioning

Basics & Terms

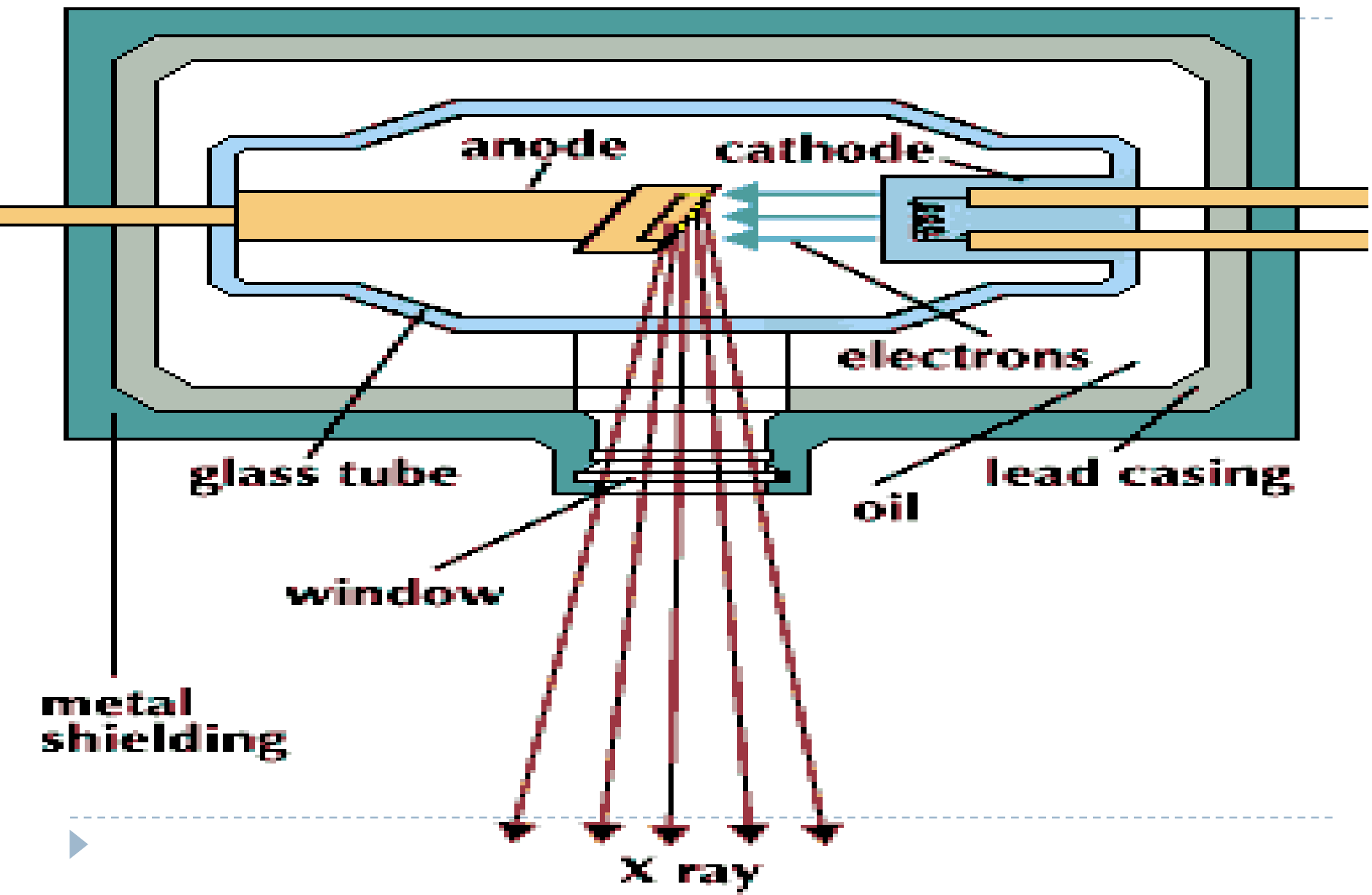
By

Dr. Ahmad Mokhtar Abodahab - MD

In the previous lecture :

▶ **Q1. Mention The structure of X ray Tube ?**





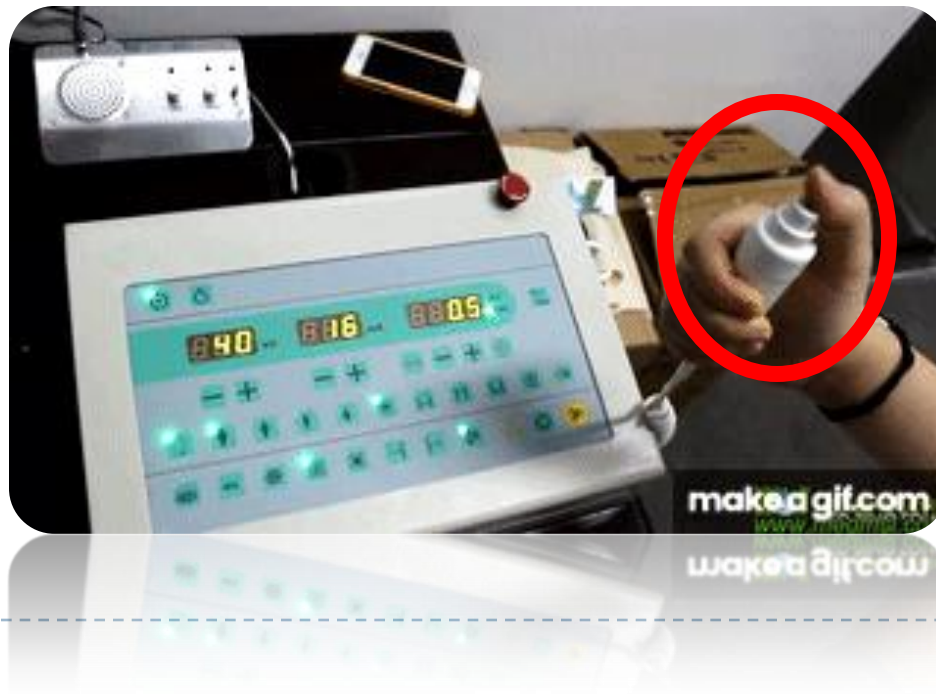
▶ **Q2. Why glass envelop of X ray Tube is Pyrex ?**



To resist overheat

▶

▶ **Q3. What is the role of 2 Clicks ?**



▶ **1st Click – Preparation →**

- Cathode filament : heat
- Anode disc : rotate

▶ **2nd Click : X ray Production**



▶ **Q4. Mention Role of these Structures ?**

Why vacuum ?

Why lead envelop ?

Why Oil around ?

Why Steel envelop ?

Why Aluminum filter ?

Why vacuum ?	No O₂ , avoid more heat & oxidation of cathode
Why Pyrex glass envelop ?	To resist over heat
Why lead envelop ?	to avoid X ray scattering in all direction
Why Oil around ?	For good cooling
Why Steel envelop ?	For good protection
Why Aluminum filter ?	For Filtering of low energy rays



TERMS



▶ **Technique** = تقنية

▶ **Technician** = تقنى او فنى

diagnostic imaging

RADIOGRAPHIC
TECHNIQUE AND
PROJECTIONS



PROJECTIONS

TECHNIQUE AND



Imaging Techniques:

BASIC or **ADDITIONAL**

▶ **BASIC** views:

must be taken whenever an Examination is ordered.

▶ **ADDITIONAL** views :

Are taken only when:

(a) Patient condition doesn't Permit a basic view; or

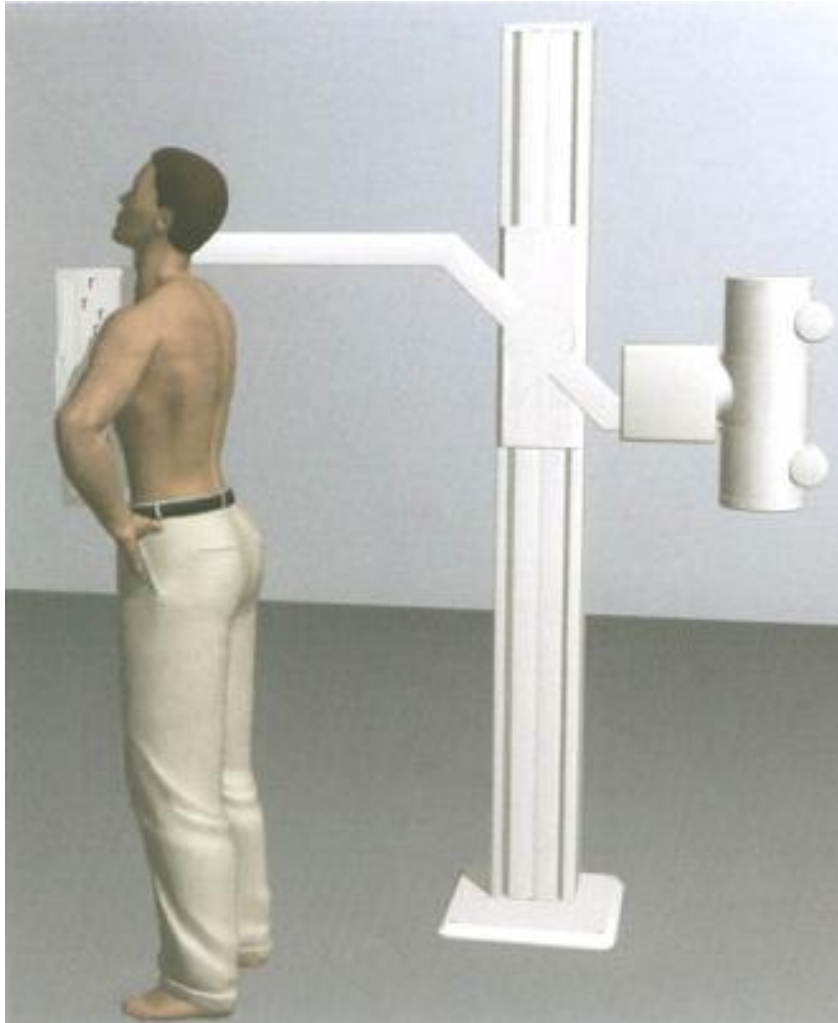
(b) Diagnostic information provided by the basic view is insufficient.

▶ **BASIC** = اساسي

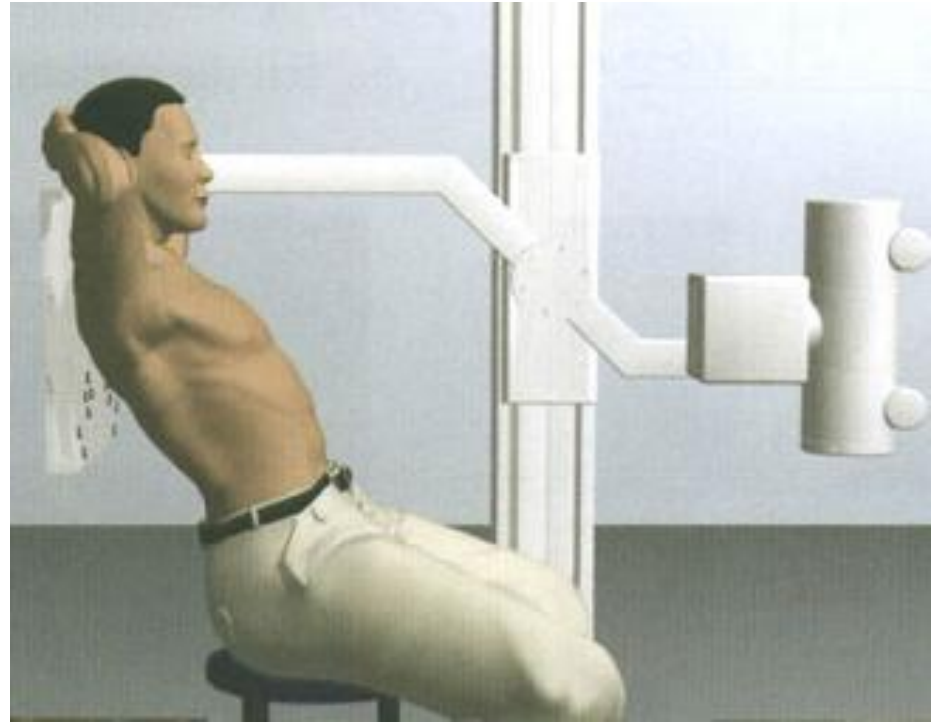
Insufficient = غير كافي

ADDITIONAL = اضافي

CHEST PA Standing erect / BASIC

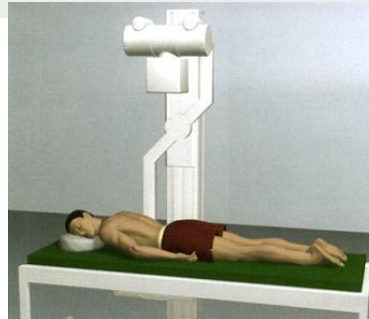
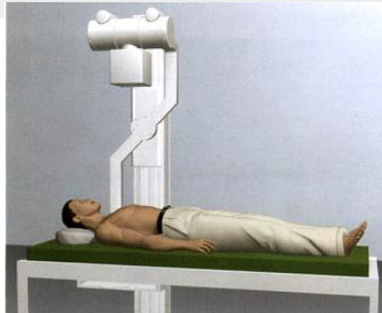


CHEST APICAL(LORDOTIC)AP / Additional

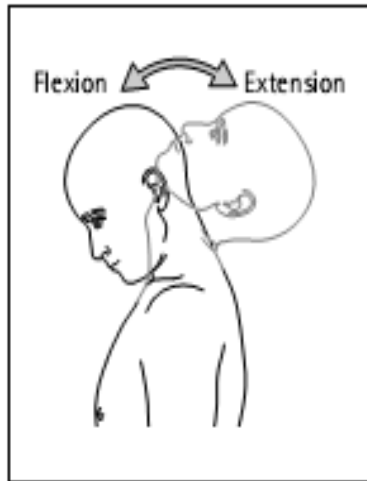


Positions of the patient

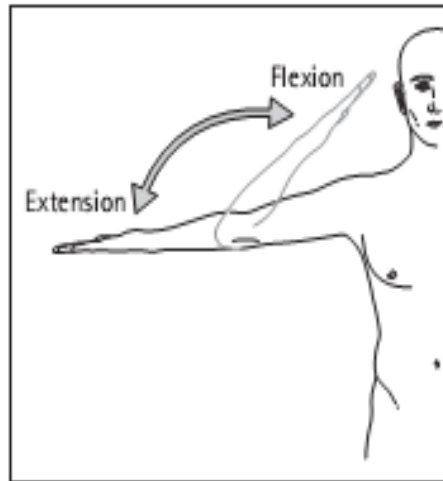
ERECT	standing or sitting up,
SUPINE	lying on the back,
PRONE	lying on the stomach,
DECUBITUS	lying on the side,
OBLIQUE	turned a little, usually at a given angle,
LATERAL	standing or sitting or lying with one side close to the cassette or cassette holder.



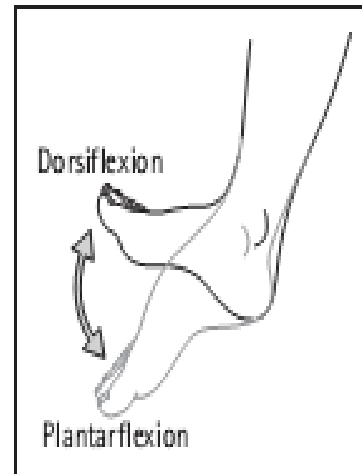
FLEXION & EXTENSION



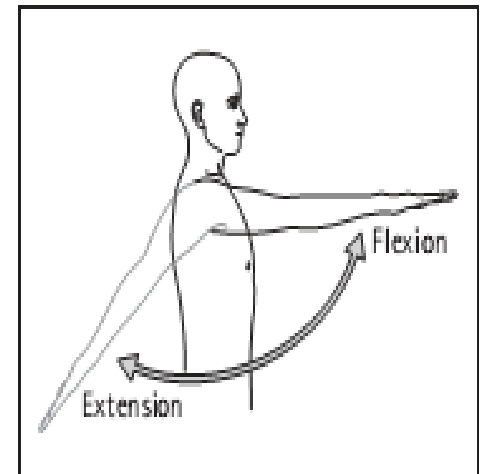
Flexion and extension of neck



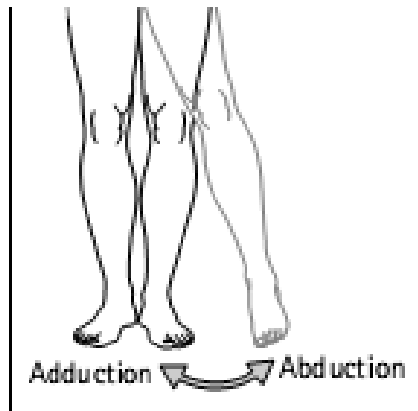
Flexion and extension of elbow



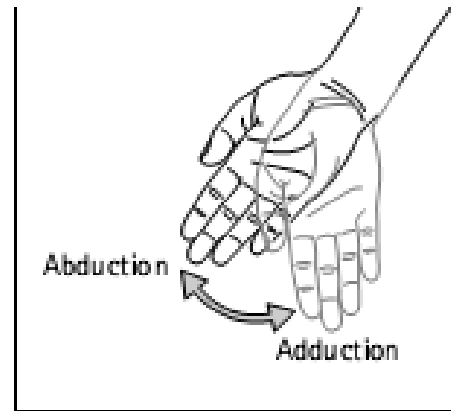
Dorsiflexion and plantarflexion of foot



Flexion and extension of shoulder

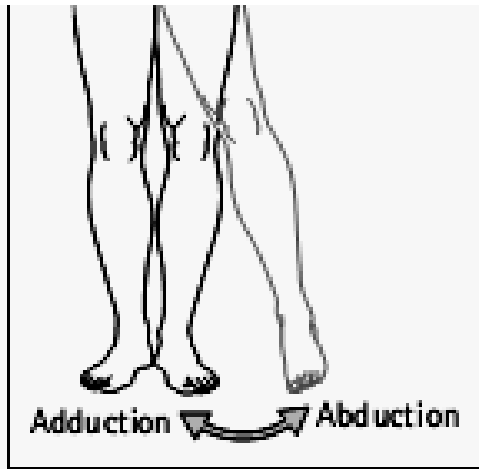


Abduction and adduction of hip

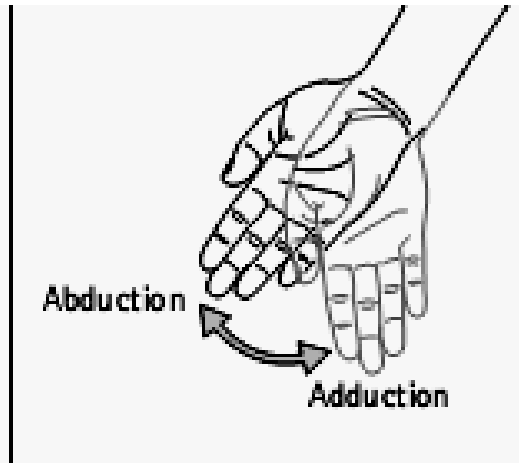


Abduction and adduction of wrist

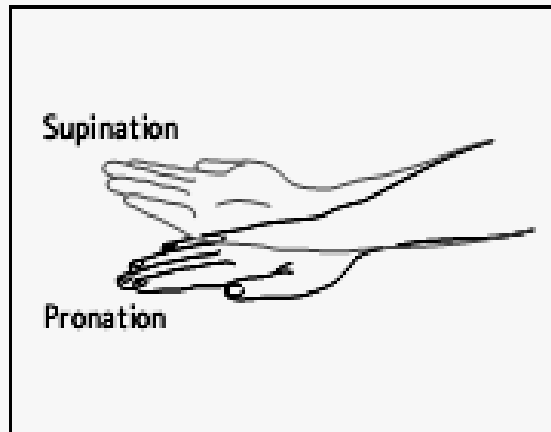




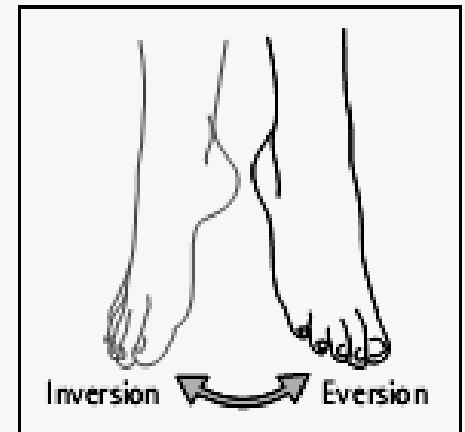
Abduction and adduction of hip



Abduction and adduction of wrist



Pronation and supination of hand/forearm

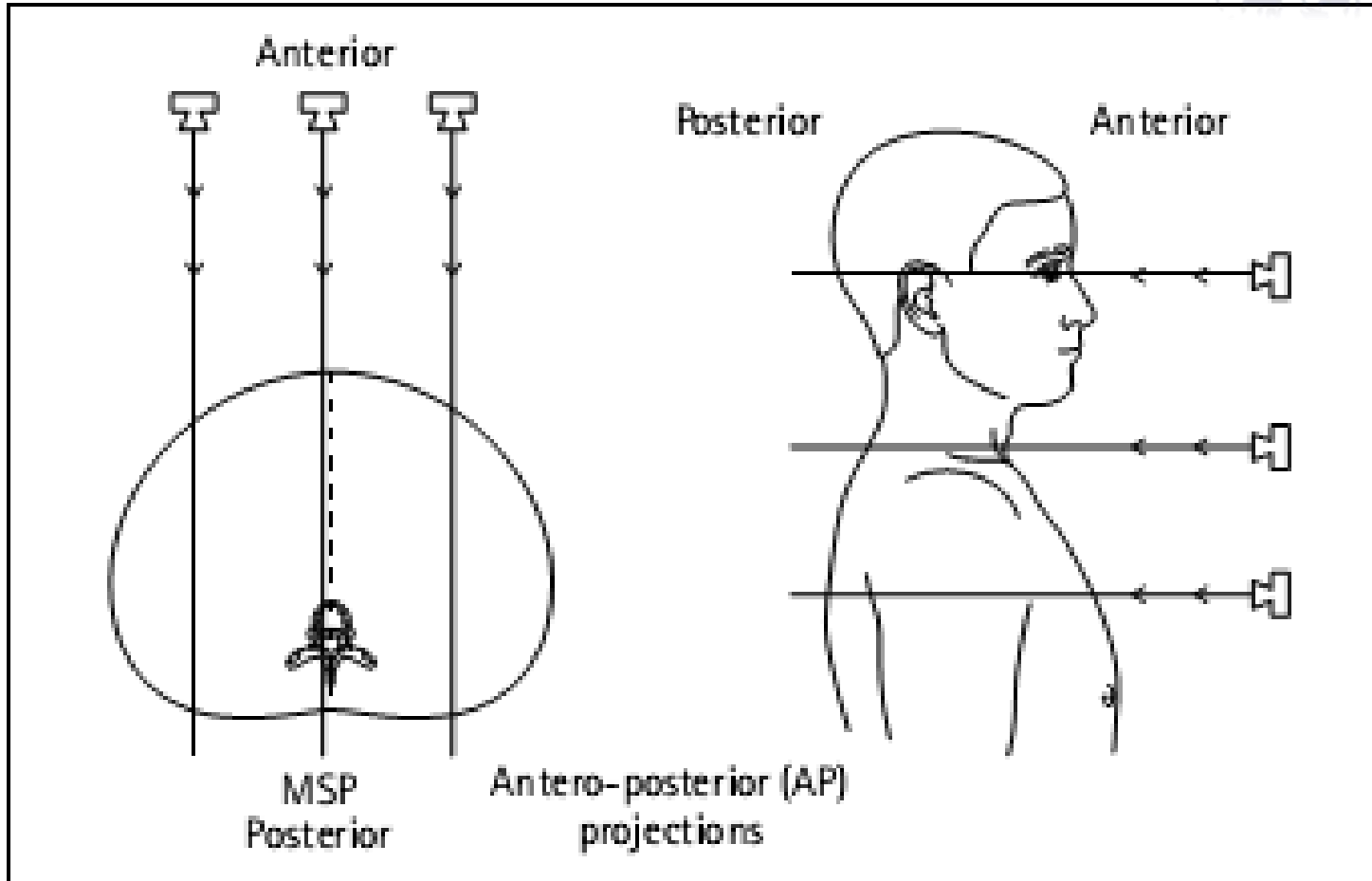


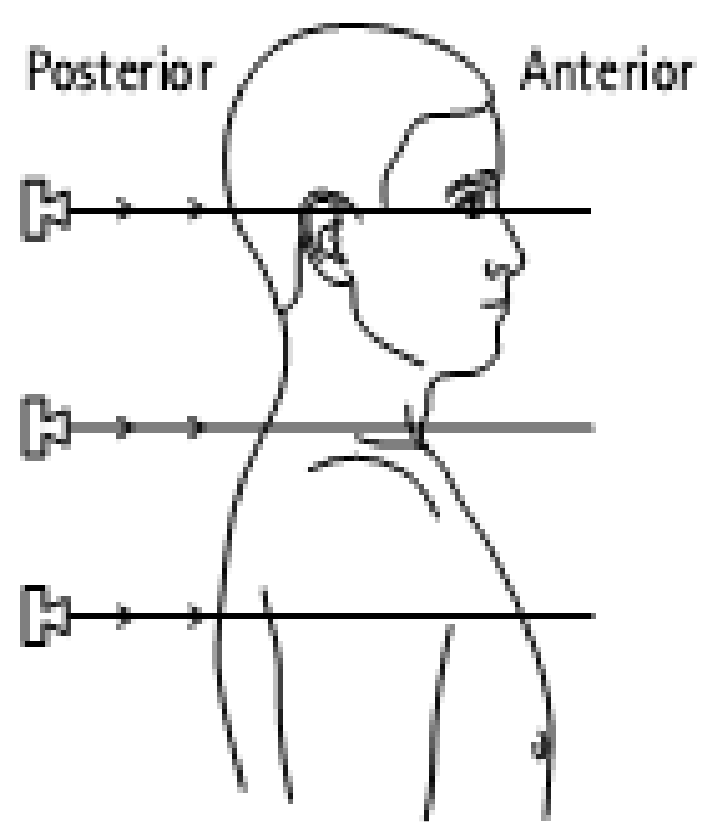
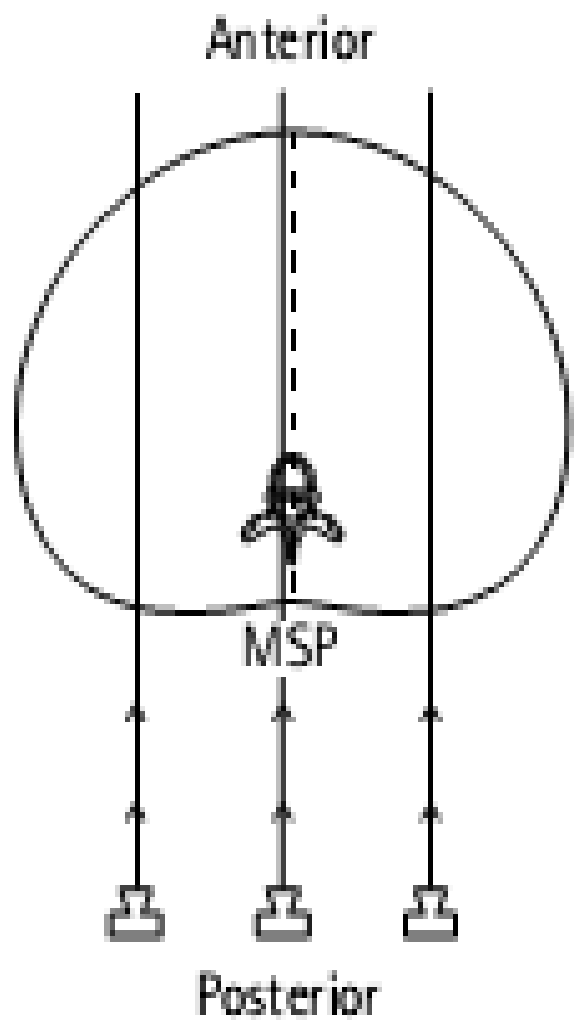
Inversion and eversion of foot



X ray Direction

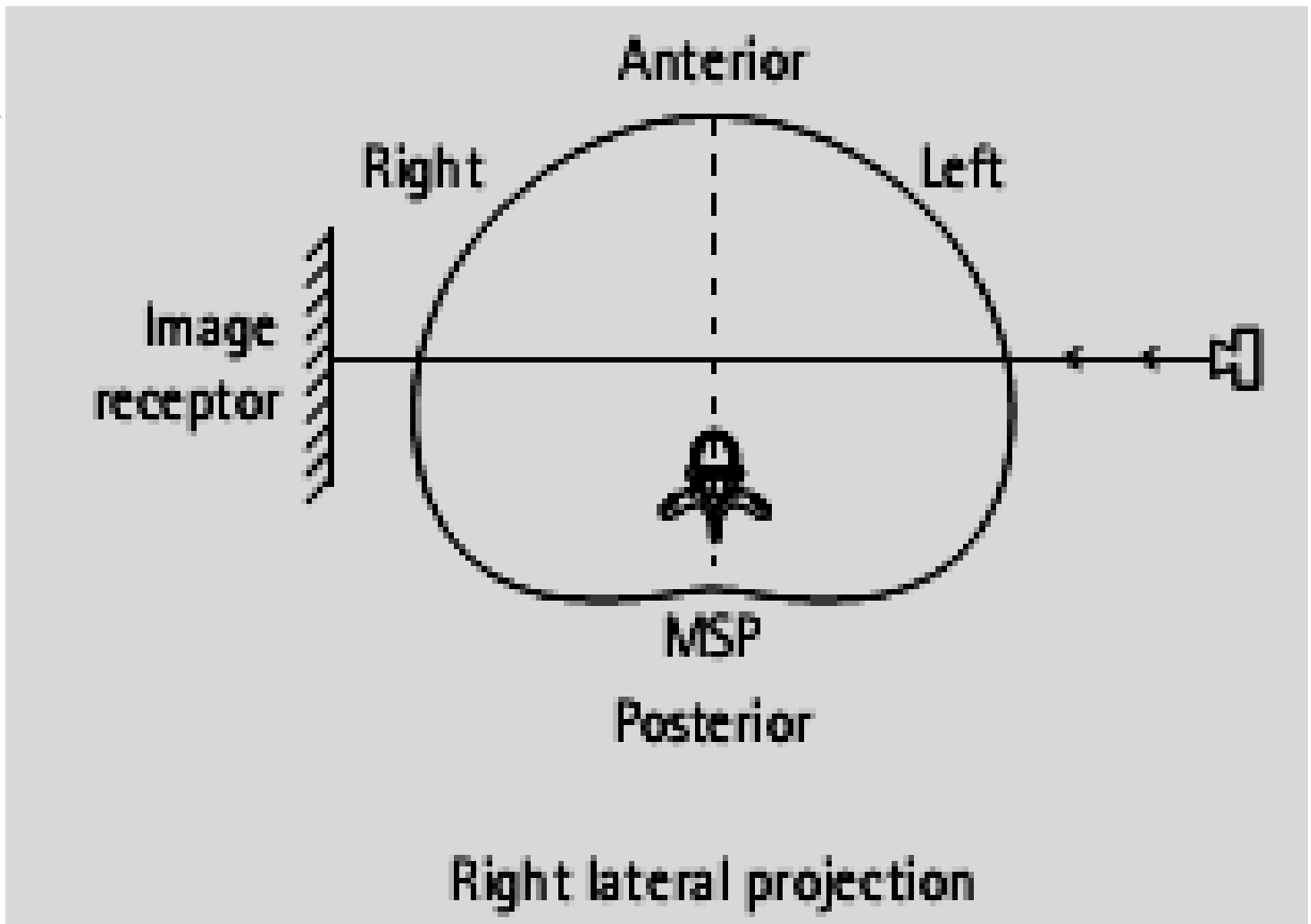
جاي مين و رايح فين





Postero-anterior (PA)
projections





▶ **Lateral Position , Named on the side near Film**

X-ray beam direction: AP or PA

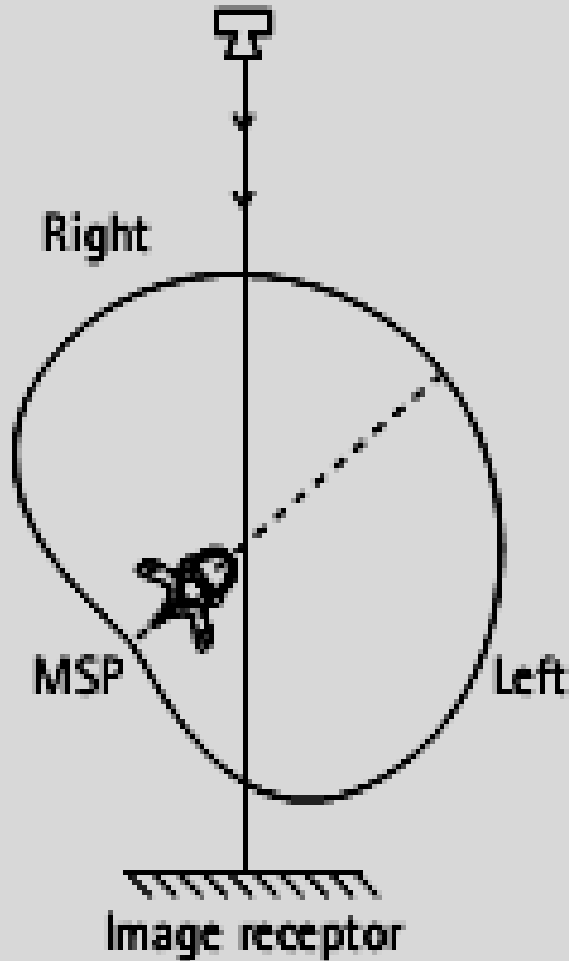
AP = Antero–Posterior (front to back) and

PA = Posterior–Anterior (back to front)

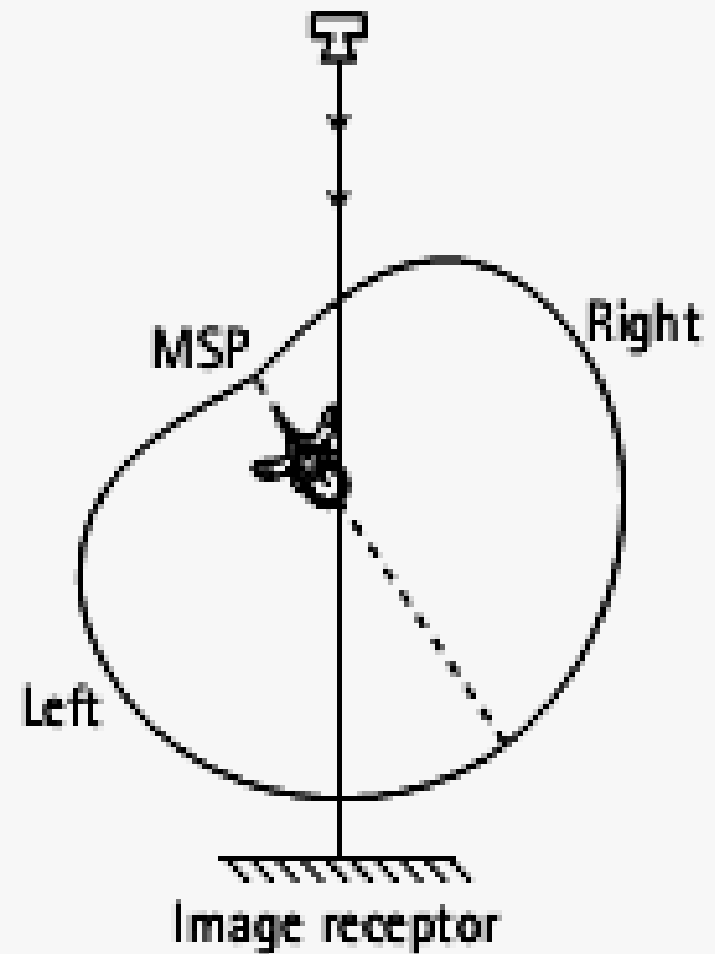
indicates the direction of the X-ray beam through the patient onto the cassette.



Oblique Position also , Named on the side near Film



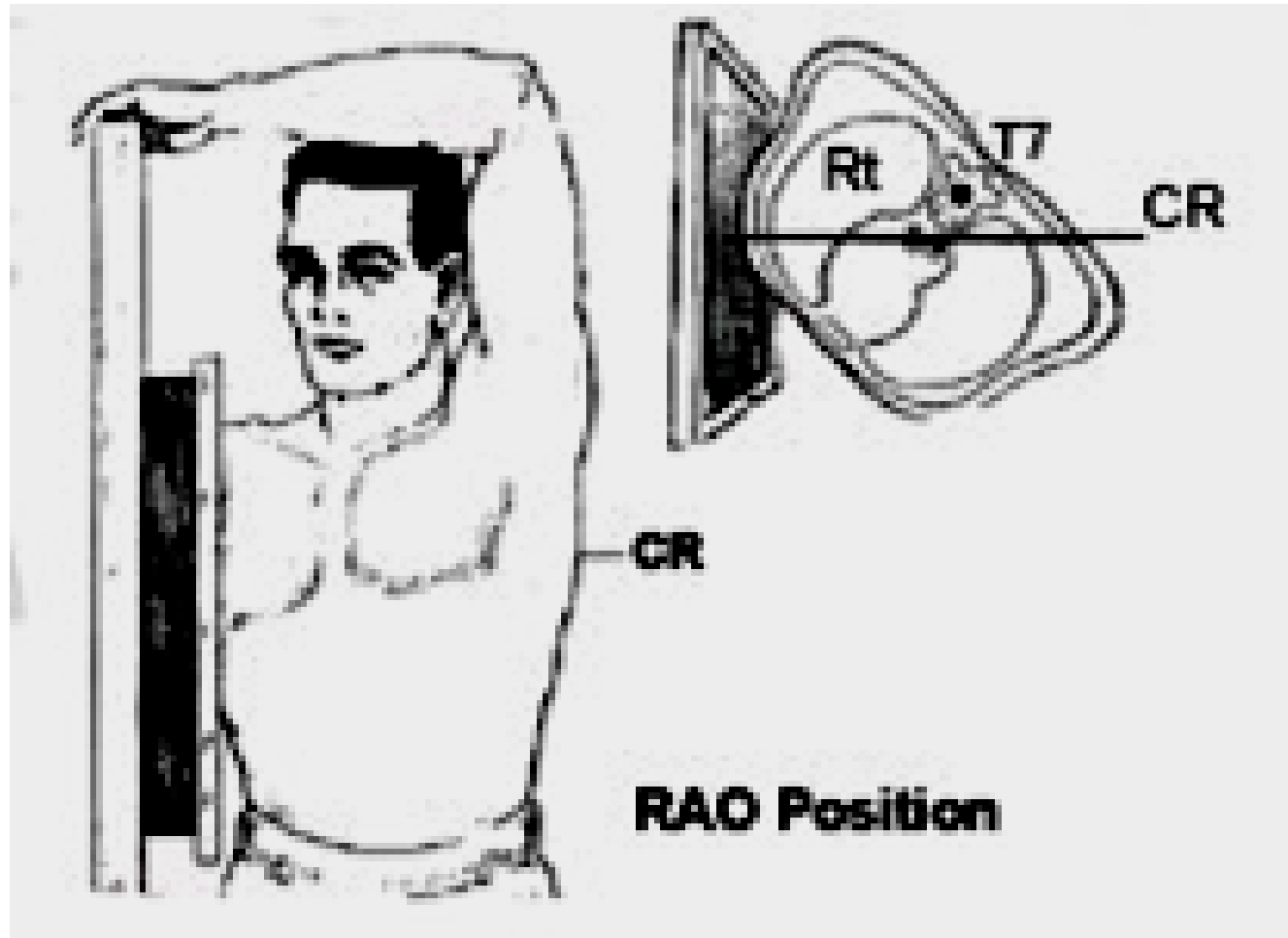
Left posterior oblique projection



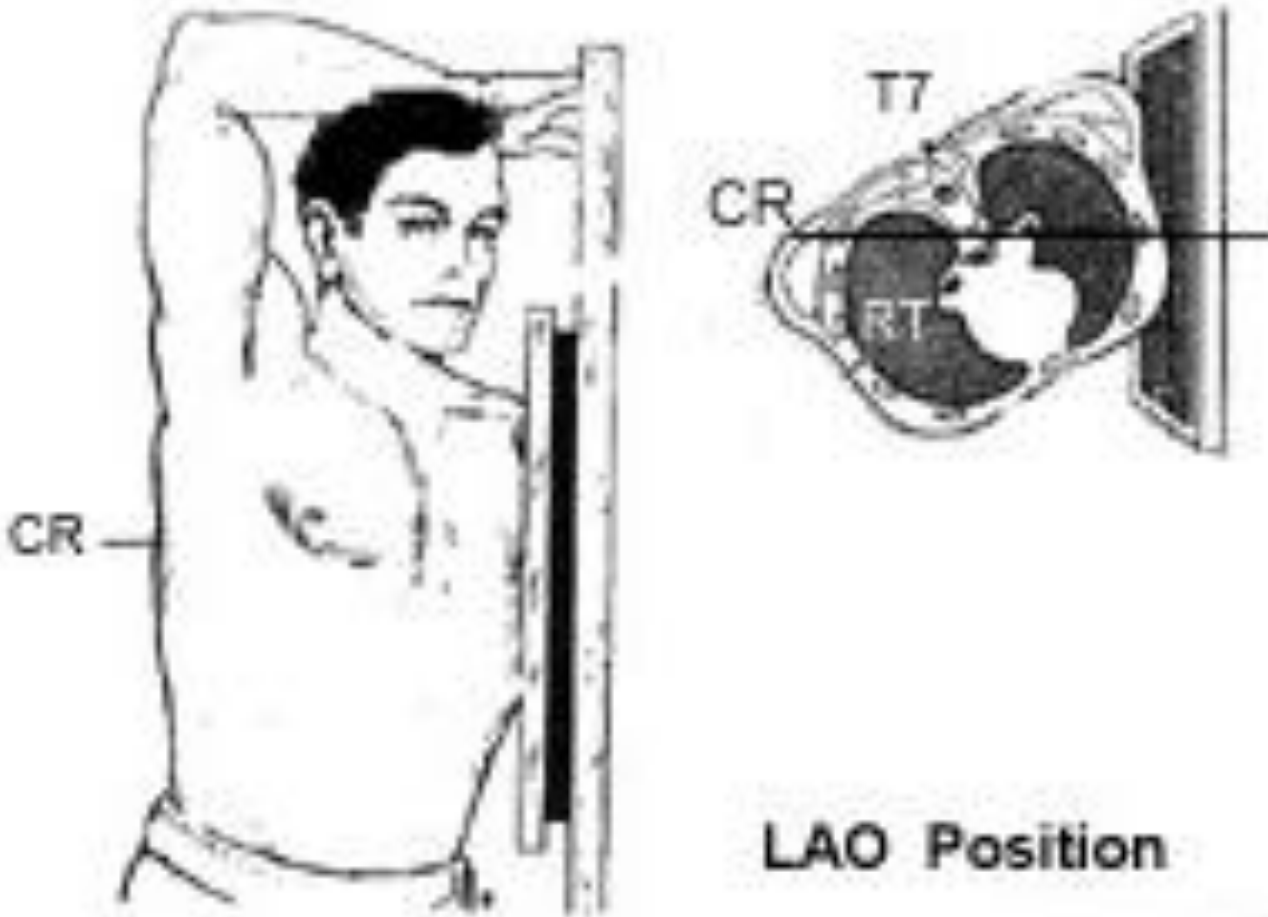
Left anterior oblique projection



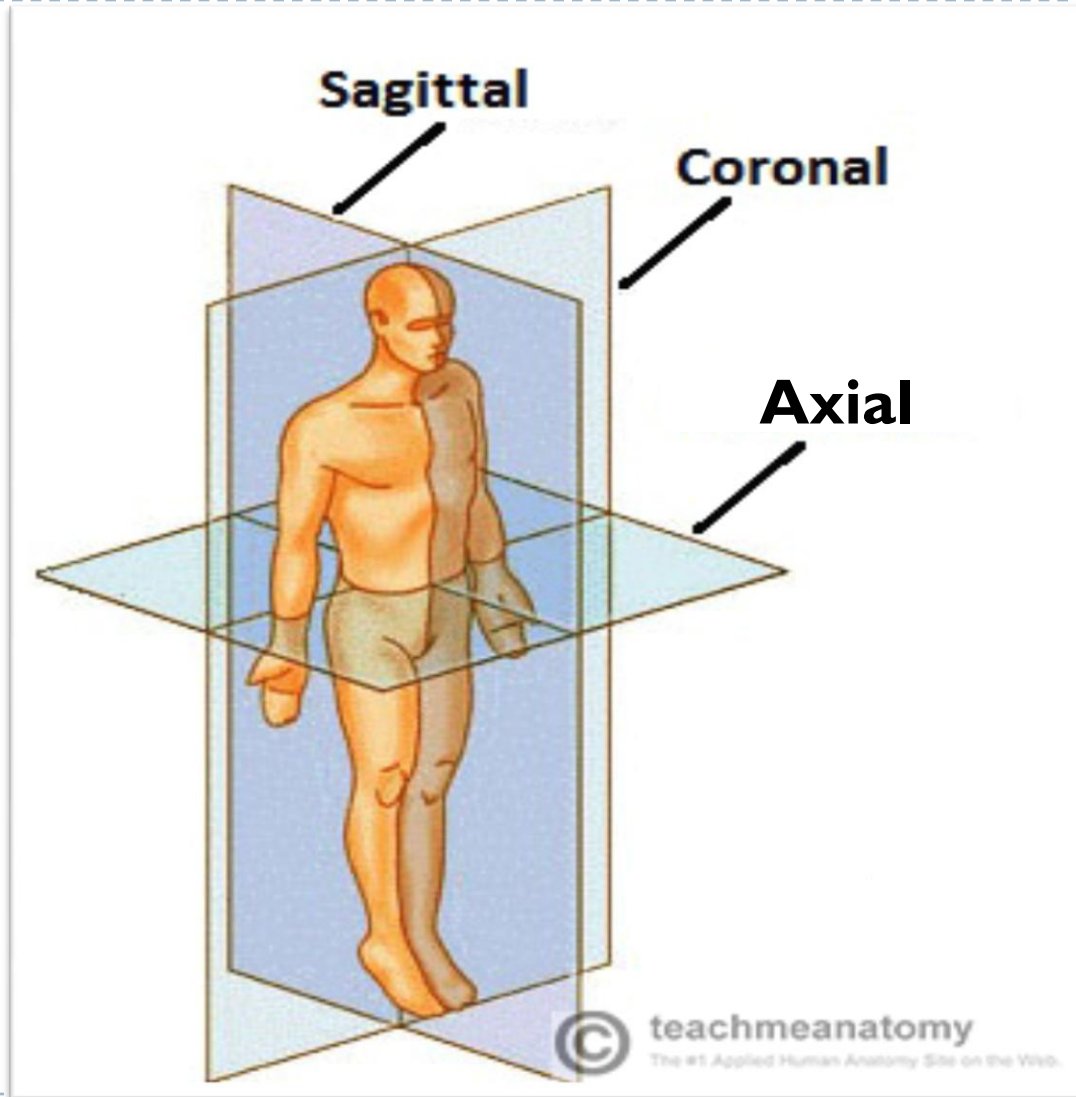
RAO = Right Anterior Oblique



LAO = Left Anterior Oblique



Planes of the body



Equipments



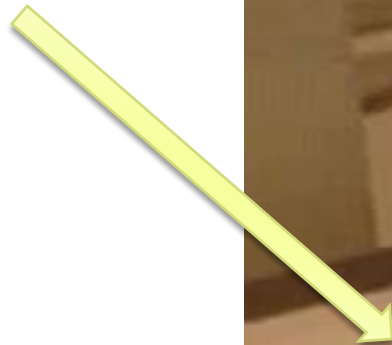
& Dark Room



X ray tube



Cassette



Adjust
Position & Collimation



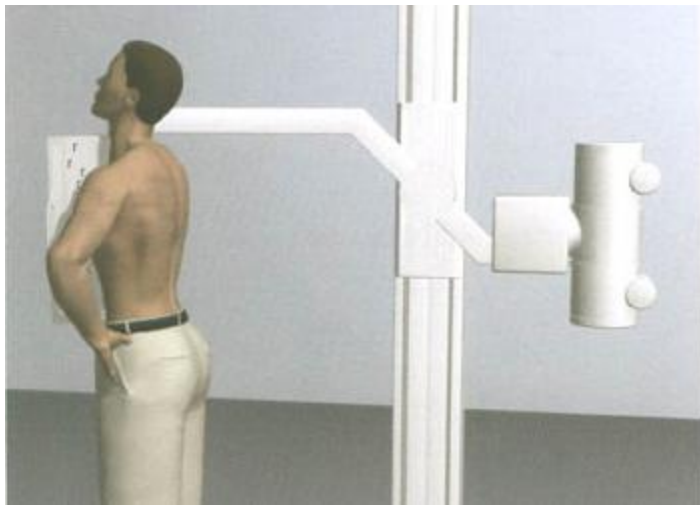
Adjust
kV – mA - & Time mAs



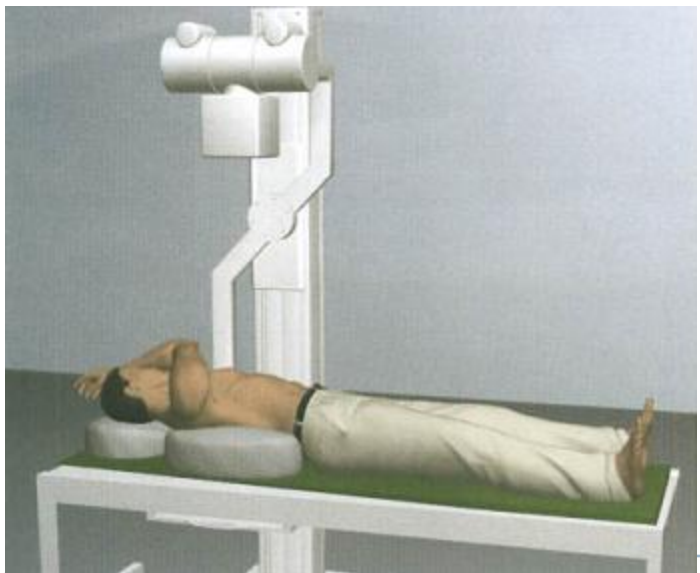


& ...On
(of 2 Clicks !!)





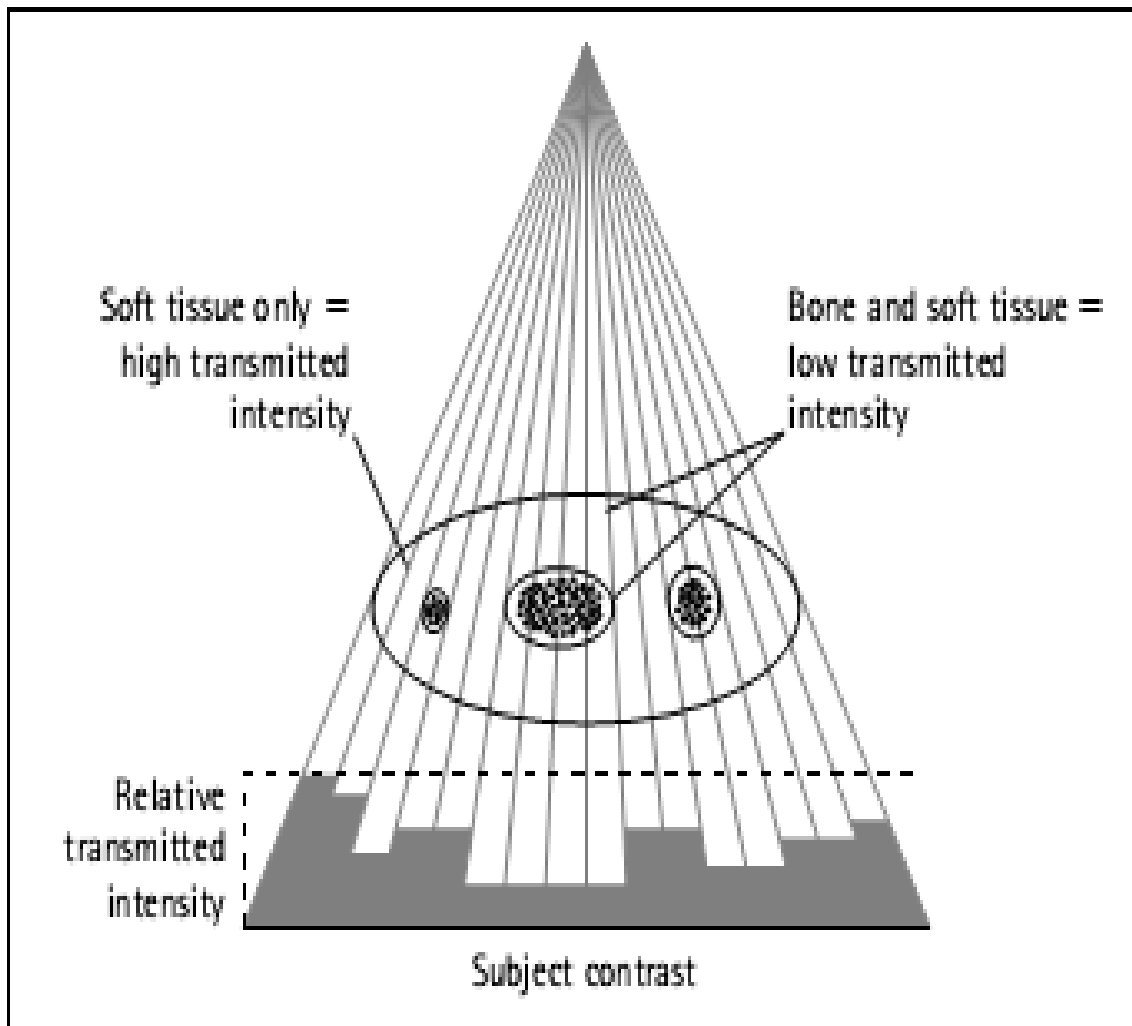
▶ Stand Bucky



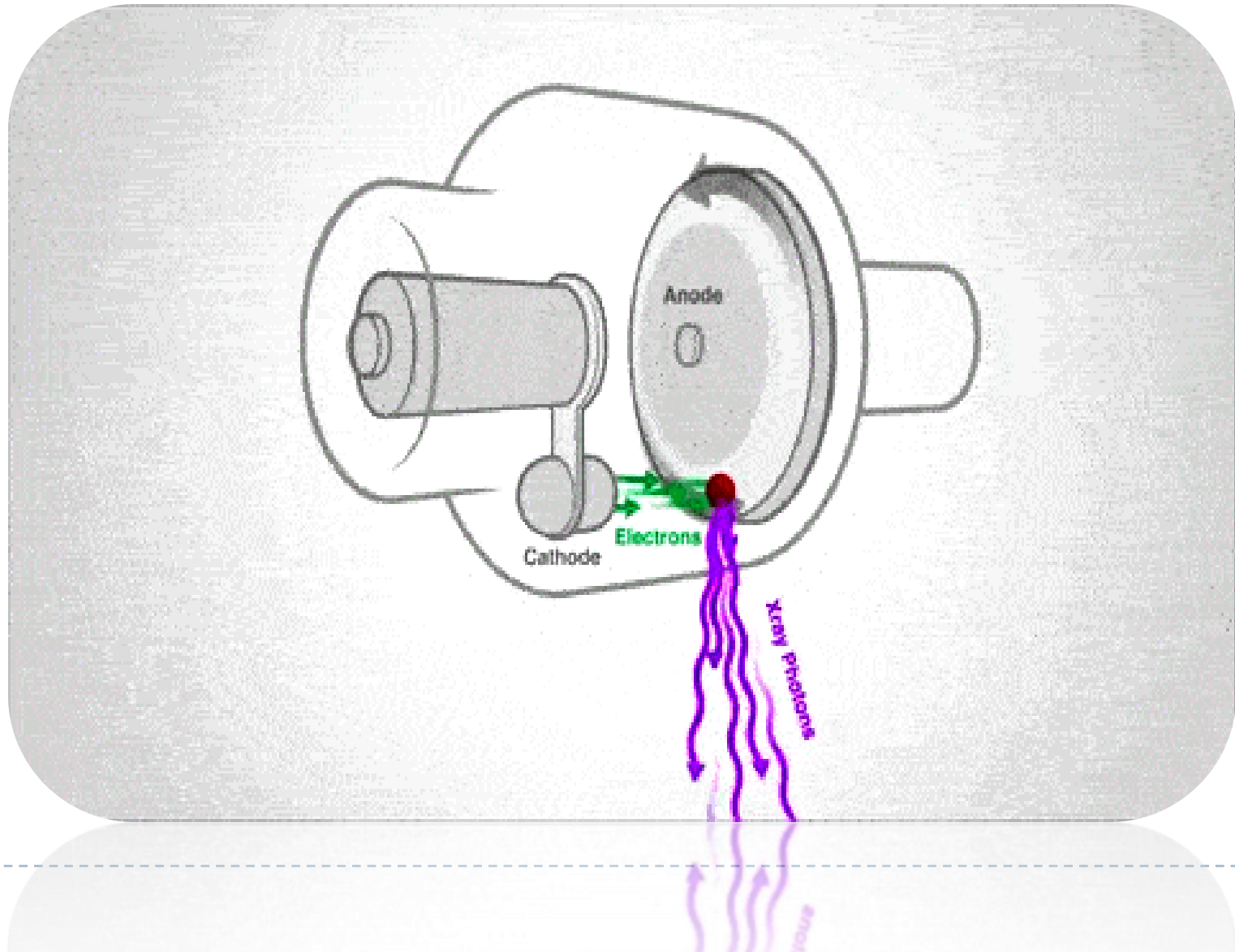
▶ Table Bucky



How & Why X ray Image Formed ?



Source : **X ray Tube**



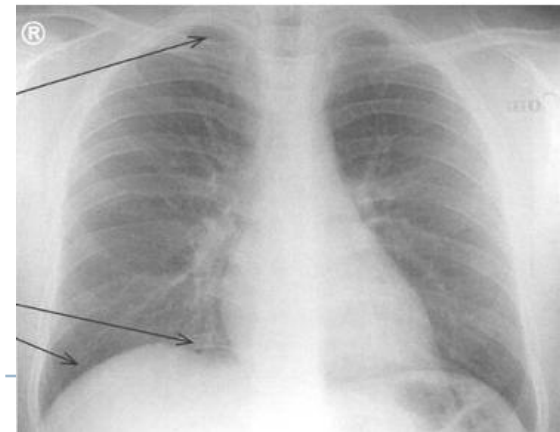
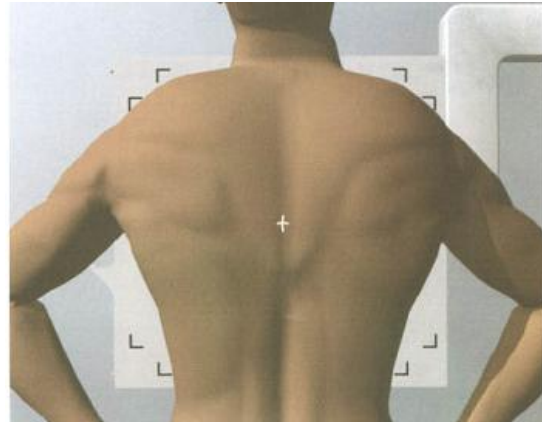
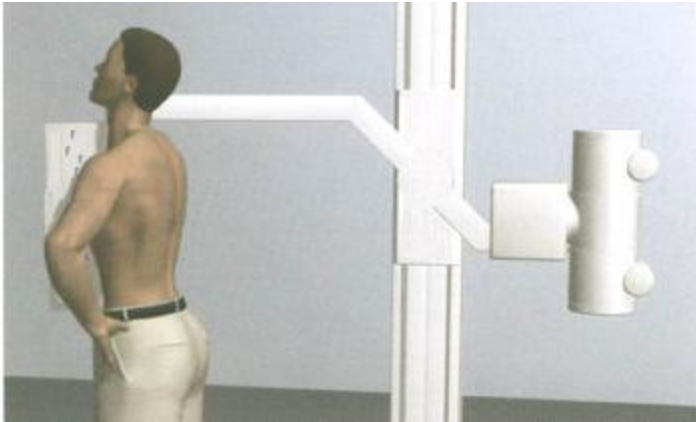
Steps of X-ray Film

- ▶ The **cassette** size
- ▶ **Marker** : Right or Left.
- ▶ **Collimate** (the X-ray field).
- ▶ **Exposure factors** : **kV** , **mAs**
- ▶ **The position** of the patient.



The position of the patient

- ▶ **Position**
- ▶ **Central Ray** (center of the film)
- ▶ **Exposure factors** : kV, mAs
- ▶ **Limits** of the film: upper & lower
- ▶ **Bucky**: used or Not



**& Now
Mention Patient
Position**





Erect – AP

▶



Erect – Rt lateral

▶



**Erect
PA**





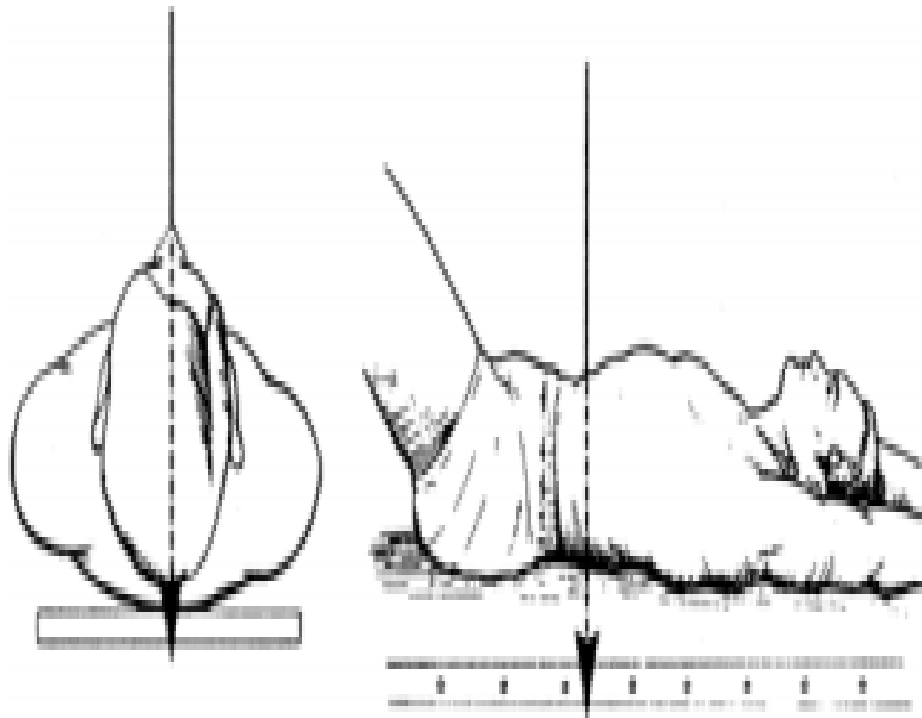
Supine AP



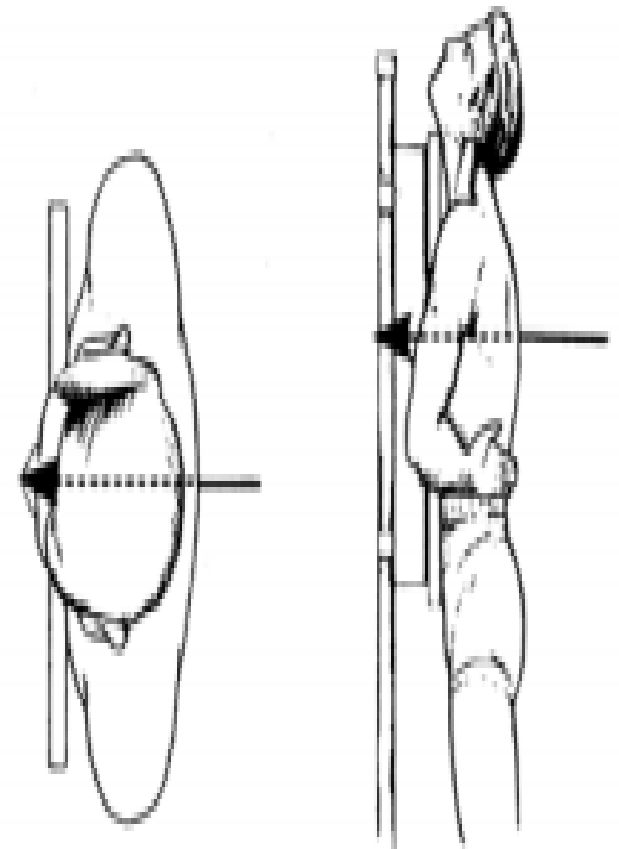
Summary



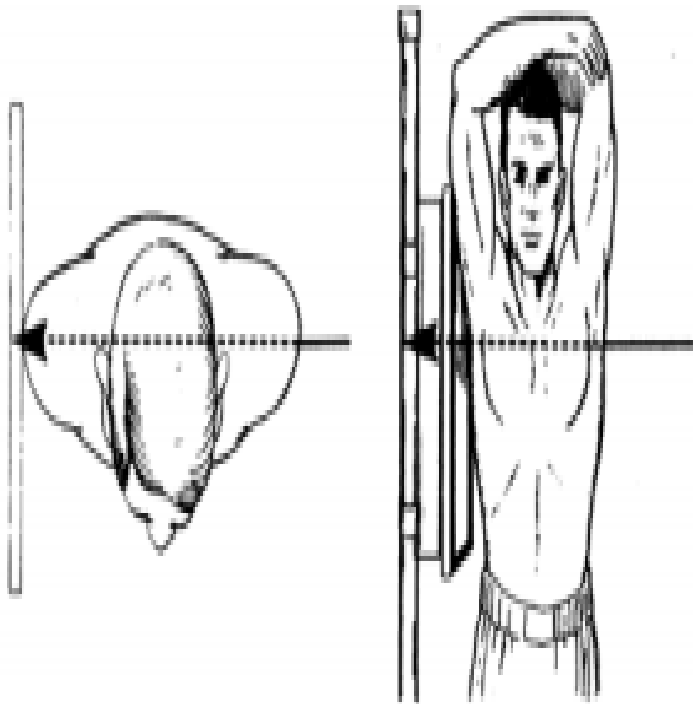
Anteroposterior Projection



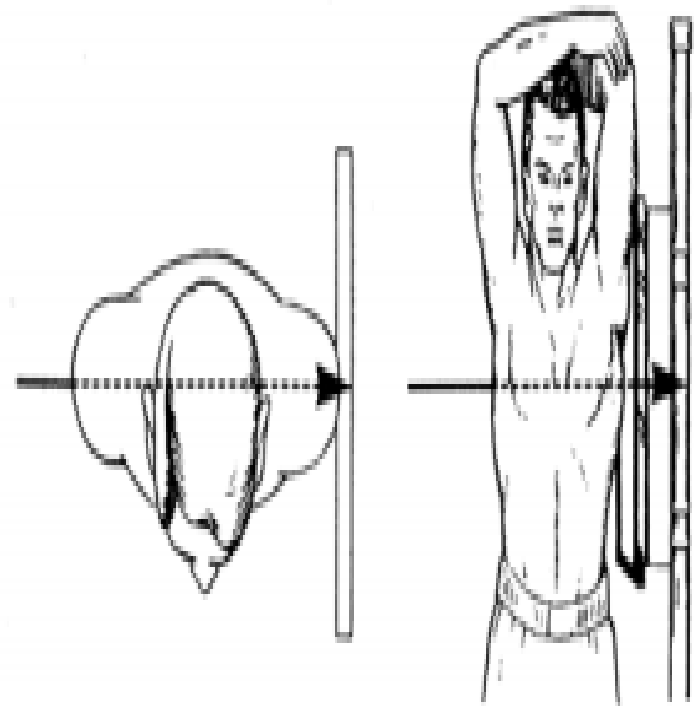
Posteroanterior Projection



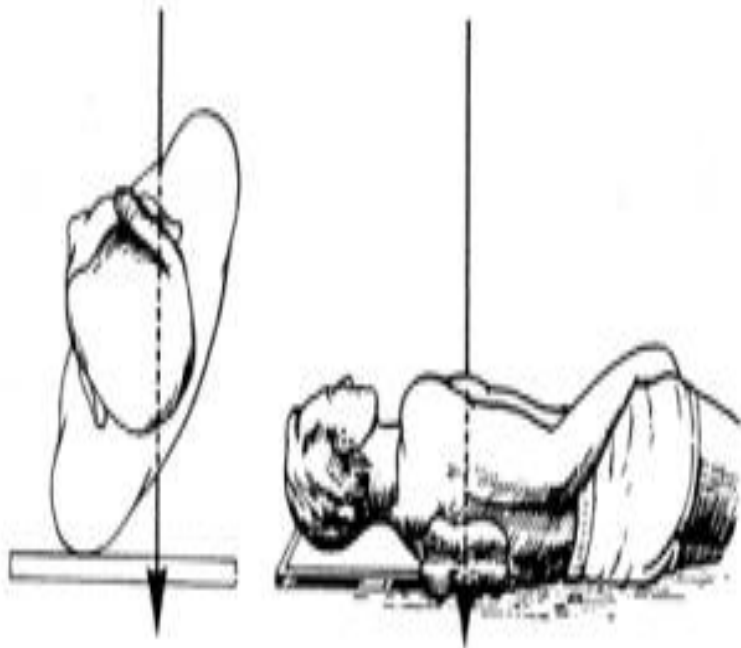
Right Lateral Position



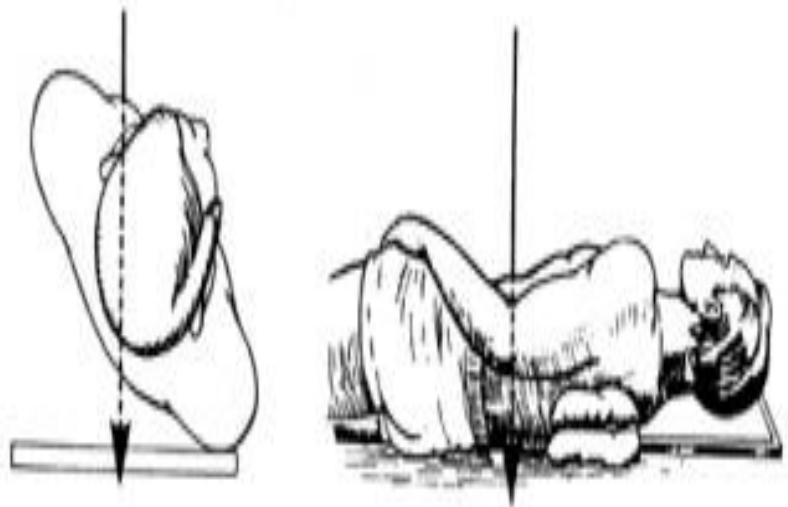
Left Lateral Position



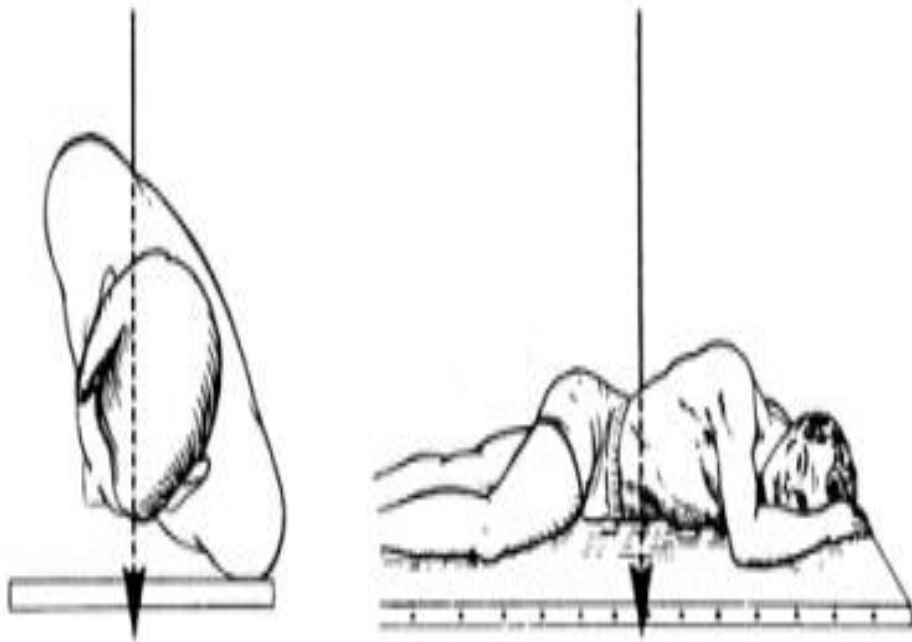
Left Posterior Oblique Position



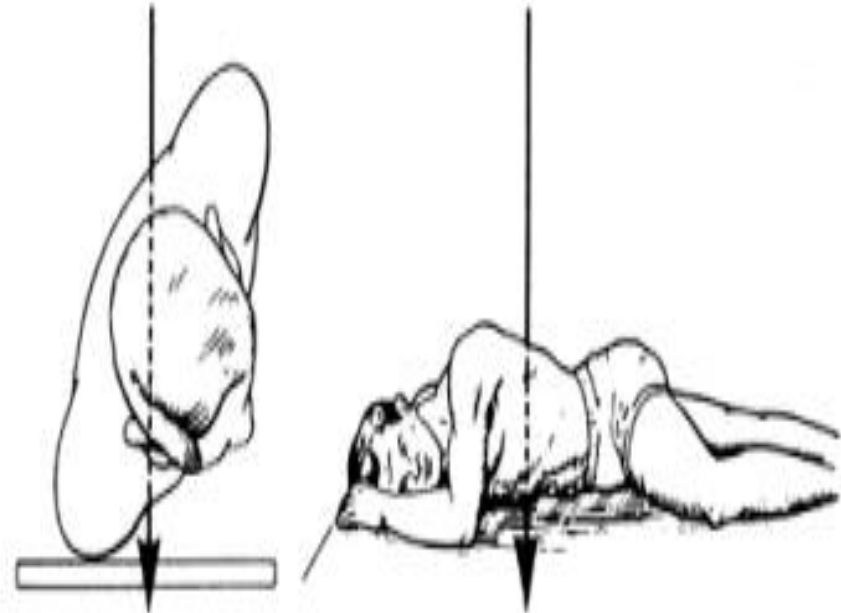
Right Posterior Oblique Position



Left Anterior Oblique Position



Right Anterior Oblique Position



In any position :

- ▶ **Cassette size**
- ▶ **Position**
- ▶ **Central Ray** (center of the film)
- ▶ **Exposure factors** : kV, mAs
- ▶ **Limits** of the film: upper & lower
- ▶ **Bucky**: used or Not



CLARK'S POSITIONING IN RADIOGRAPHY

12TH
EDITION



A. STEWART WHITLEY • CHARLES SLOANE • GRAHAM HOADLEY
ADRIAN D. MOORE • CHRISSE W. ALSOP

The WHO manual of diagnostic imaging

RADIOGRAPHIC
TECHNIQUE AND
PROJECTIONS



World Health Organization
Geneva

3HAP

A sunset over the ocean with silhouettes of people watching. The sun is low on the horizon, creating a bright orange and yellow glow that reflects on the water. The sky is dark, and the silhouettes of people are visible in the foreground, looking out at the sea.

THANK YOU

A.M.Abodahab - MD

Oct 2021