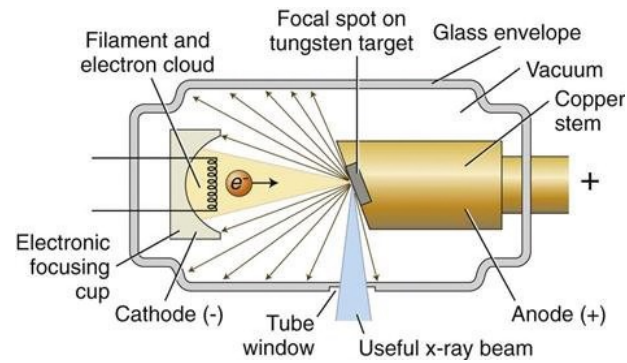


X-Ray



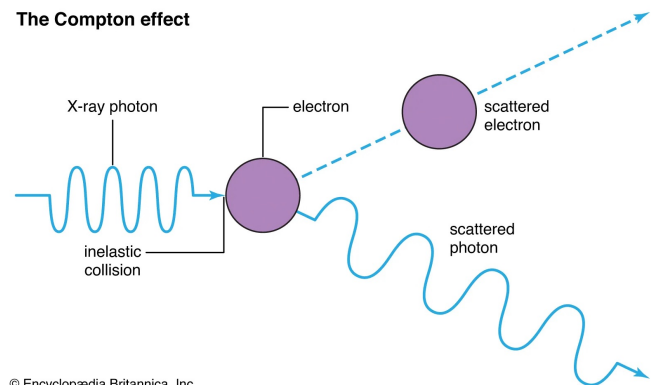
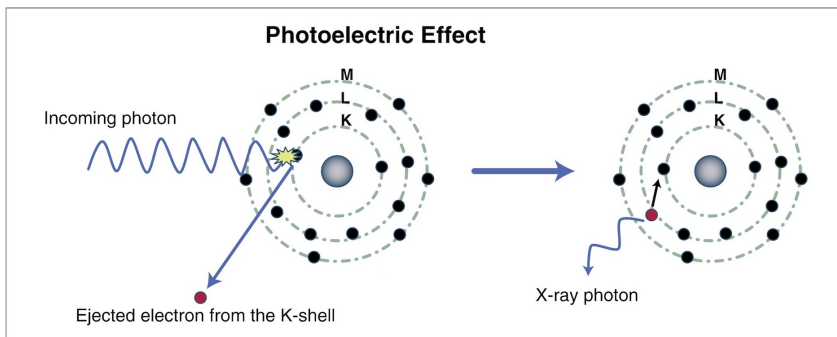
- X-rays are a form of electromagnetic energy formed when high speed electrons bombard a tungsten anode target.
- X-rays have a much shorter wavelength, allowing them to penetrate matter.



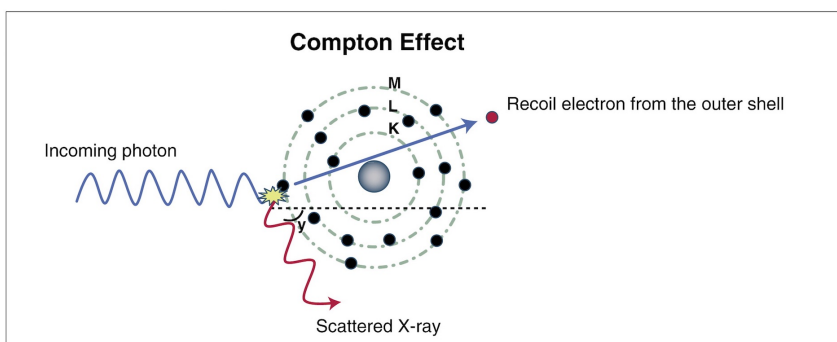
Interaction of X-rays with matter

- Manner in which X-ray beam interacts with body tissues:

- Compton effect
 - Photoelectric effect
 - Coherent scattering
 - Photo-disintegration
 - Pair production.
-] Most common

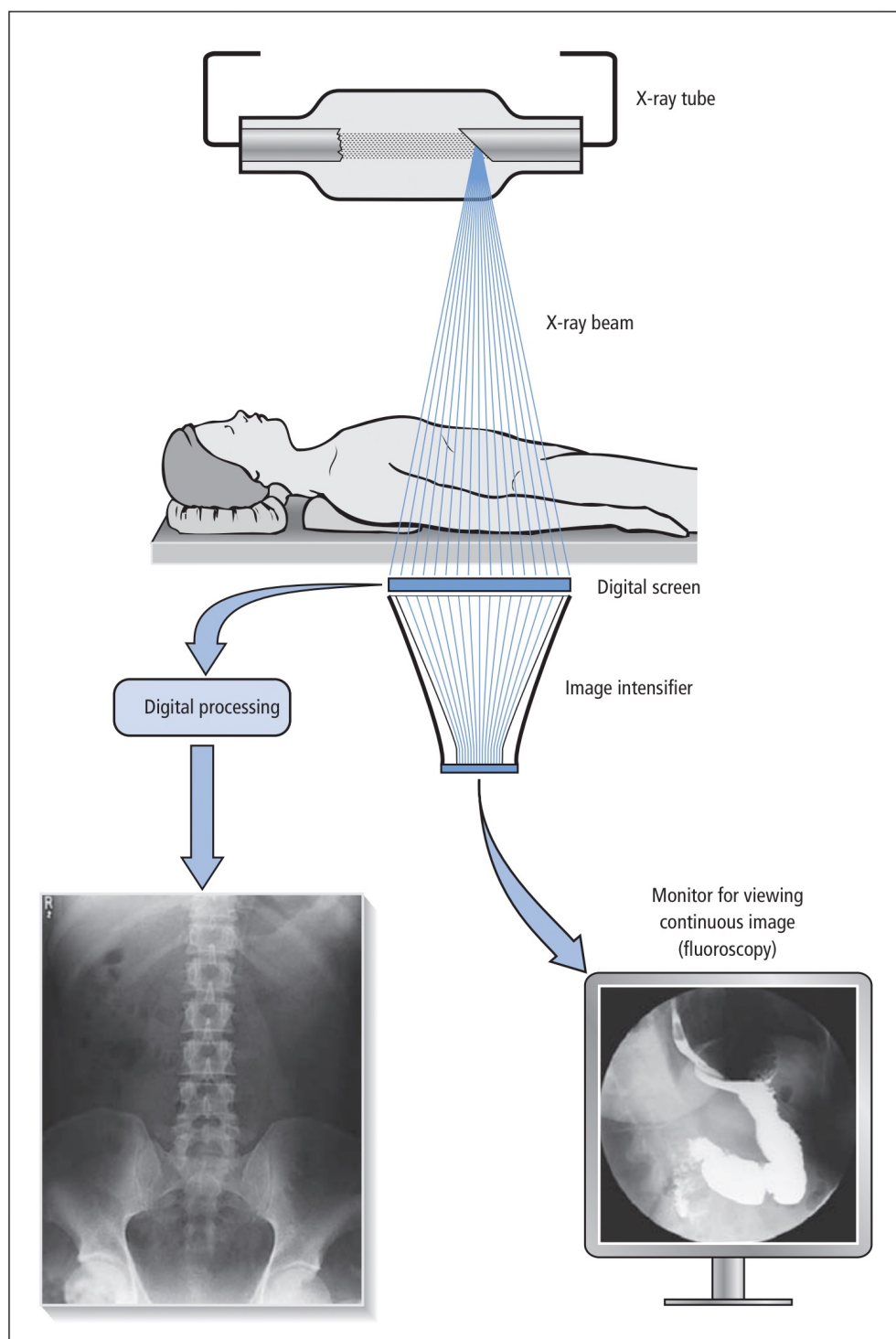
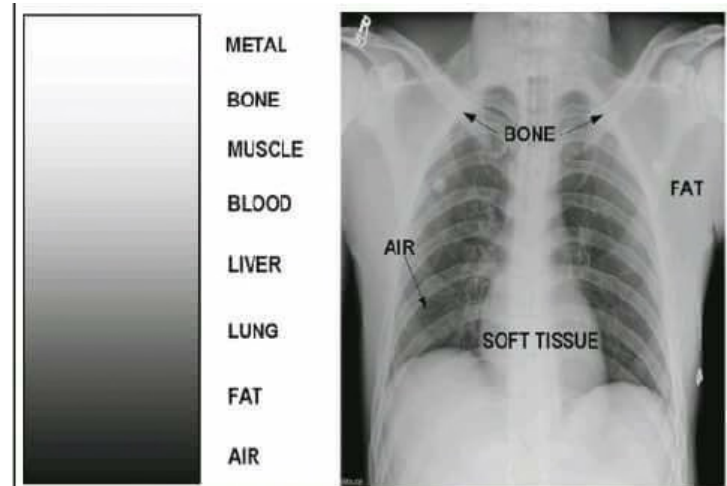


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Five basic Radiographic Densities:

- (i) Metal - Bright White
- (ii) Mineral - White
- (iii) Fluid / Soft Tissue - Gray
- (iv) Fat - Dark gray
- (v) Air - Black.



Chest X-Rays:

- The chest X-ray is the best initial radiological tests for all forms of pulmonary complaints as:
 - (i) Cough
 - (ii) Dyspnea
 - (iii) Chest pain
 - (iv) Sputum or hemoptysis.
 - (v) Chest wall tenderness
 - (vi) Dullness to percussion
 - (vii) Tracheal deviation
 - (viii) Possible Superior Vena cava syndrome

Abdominal X-rays:

- Abdominal X-ray has very few indications.
- The best indication is Ileus or small bowel Obstruction.
- Abdominal X-ray is not accurate for stones of Kidney & will miss at least 20% of cases.
- Also not reliably find air under the diaphragm.

Bone X-ray :

- Best initial test for Osteomyelitis.

Skull X-ray :

- No first-class indication, Skull X-ray is not best initial or most accurate test for anything.