Anatomy—study of structure of an organism and relationships of its parts

Physiology—study of functions of living organisms and their parts

Pathology—scientific study of disease

Anatomical Position

Reference the position in which the body is standing erect with the feet slightly apart and arms at the sides with palms turned forward.

Anatomical position gives meaning to directional terms.

Anatomical position



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Bontrager 1-38

Anatomical Directions

Superior—toward the head, upper, above

Inferior—toward the feet, lower, below

Anatomical Directions

Anterior—front, in front of (same as ventral in humans)

Posterior—back, in back of (same as dorsal in humans)

Anatomical Directions

Medial—toward the midline of a structure

Lateral—away from the midline or toward the side of a structure

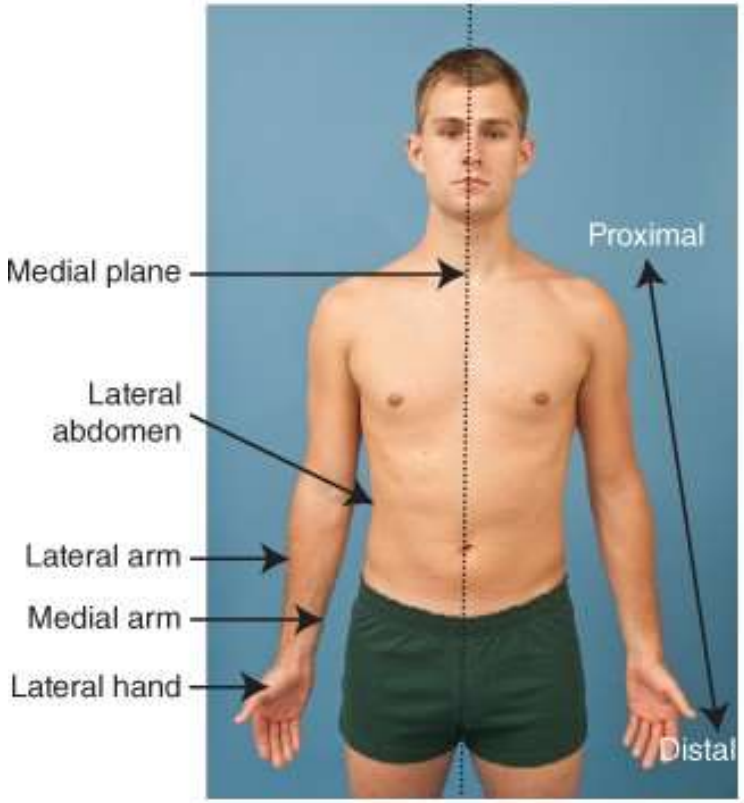
Anatomical Directions

- Proximal—toward or nearest the trunk, or nearest the point of origin of a structure

- Distal—away from or farthest from the trunk, or farthest from a structure's point of origin

Relationship Terms

- Medial vs. lateral
- Proximal vs. distal

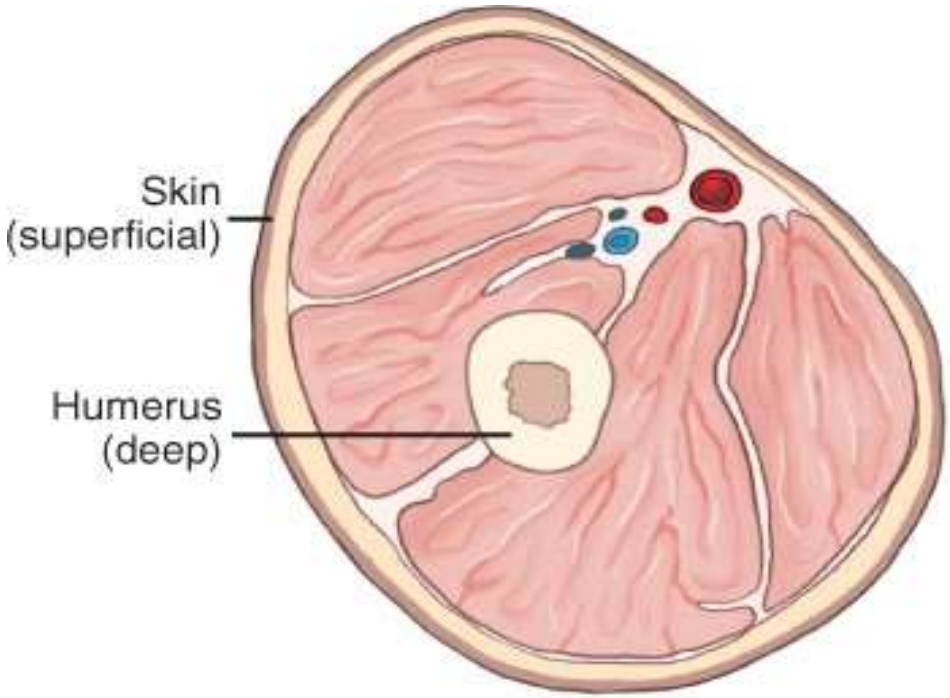


Anatomical Directions

Superficial—nearer the body surface

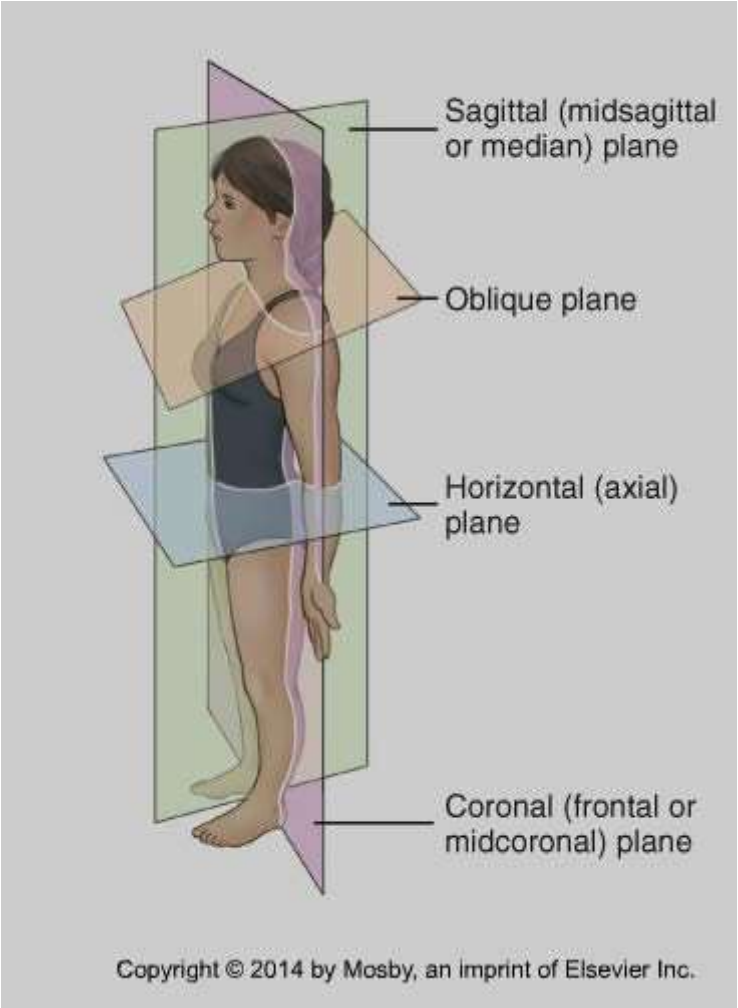
Deep—farther away from the body surface

- Superficial vs. deep



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Planes of the body



Bontrager 1-39

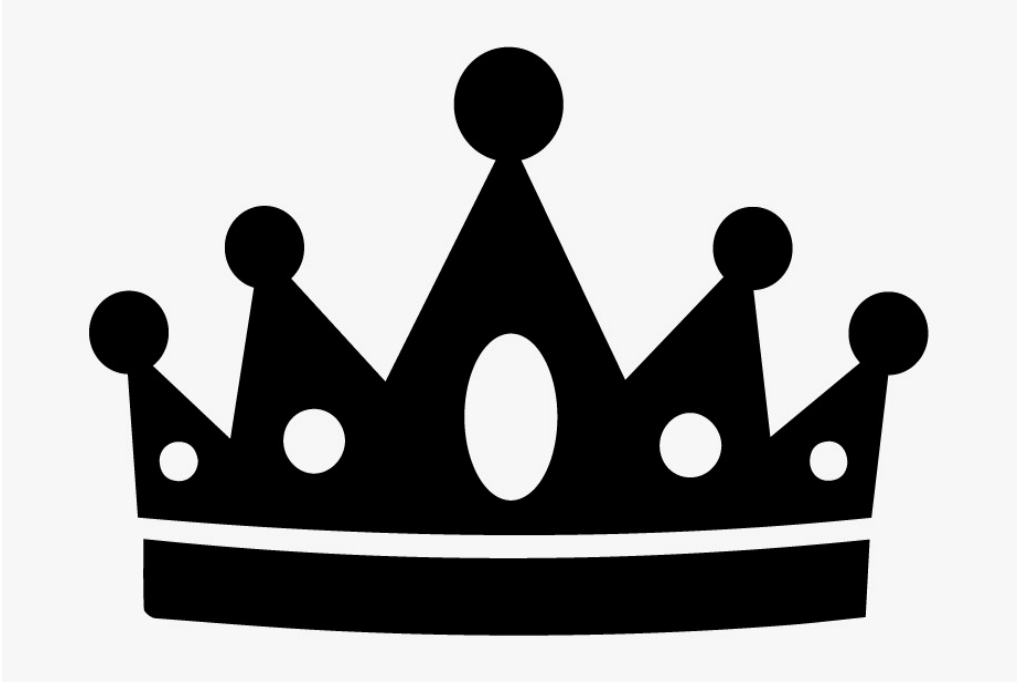
Sagittal Plane



Sagittal plane—lengthwise plane that divides a structure into right and left sections

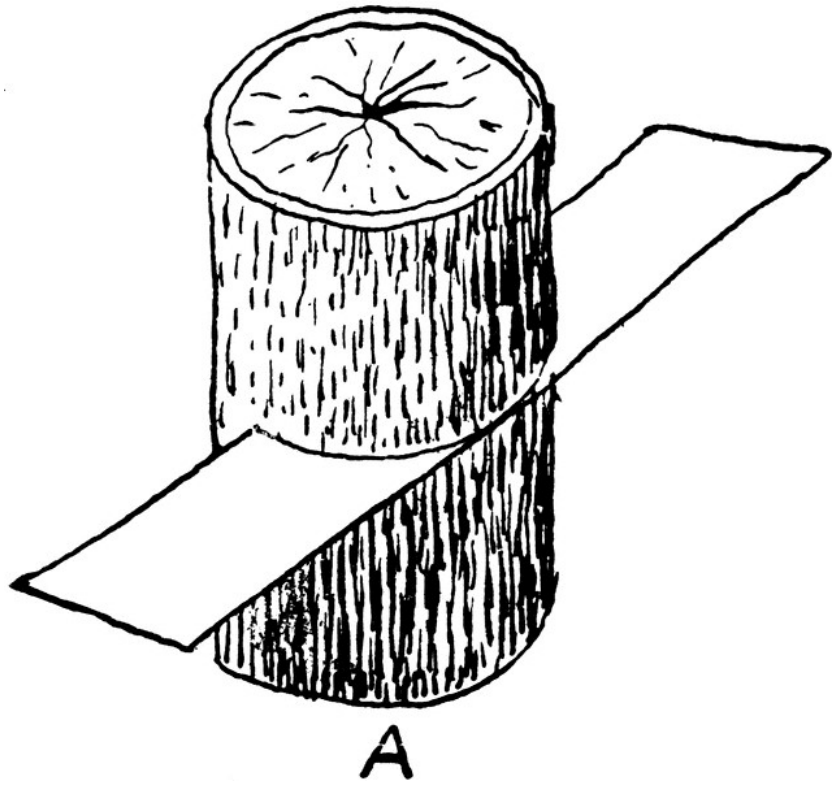
Midsagittal—sagittal plane that divides the body into two equal halves

Coronal Plane

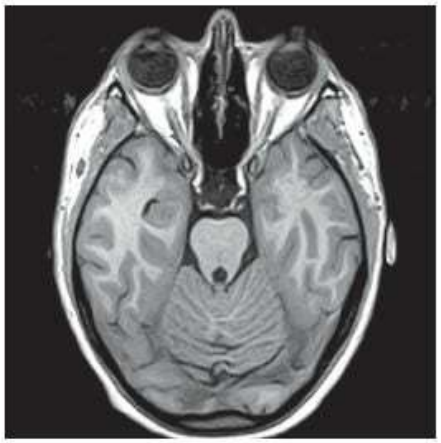


Frontal (coronal) plane- lengthwise plane that divides a structure into anterior and posterior sections

Transverse plane- horizontal plane that divides a structure into upper and lower sections



Which plane is which?



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Bontrager 1-141, 1-142, 1-143

Regardless of how the x-ray was taken…



Bontrager 2-51

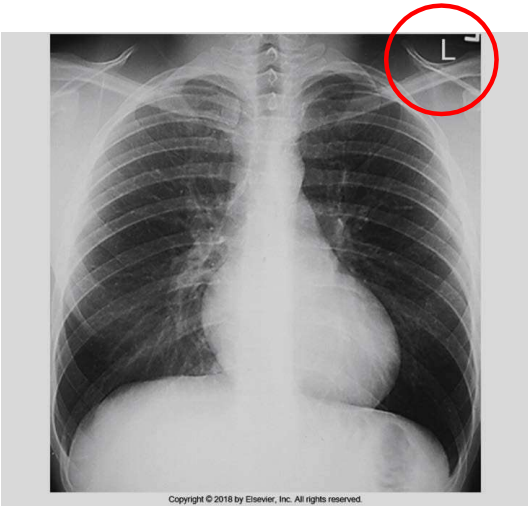


Bontrager 2-37

Regardless of how the x-ray was taken…



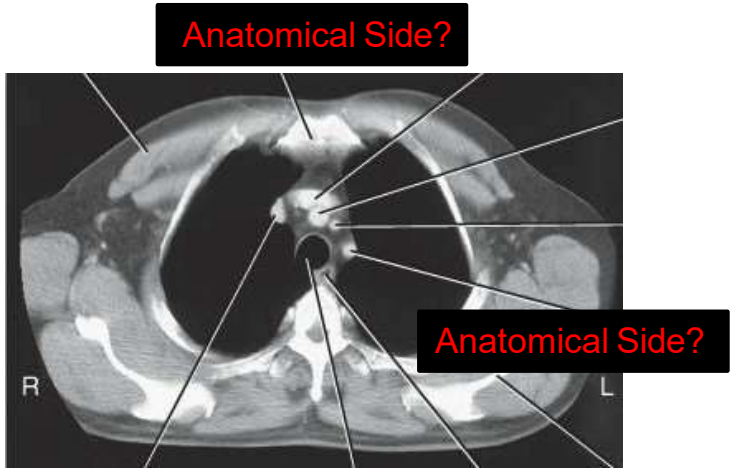
Bontrager 2-51



Bontrager 2-37

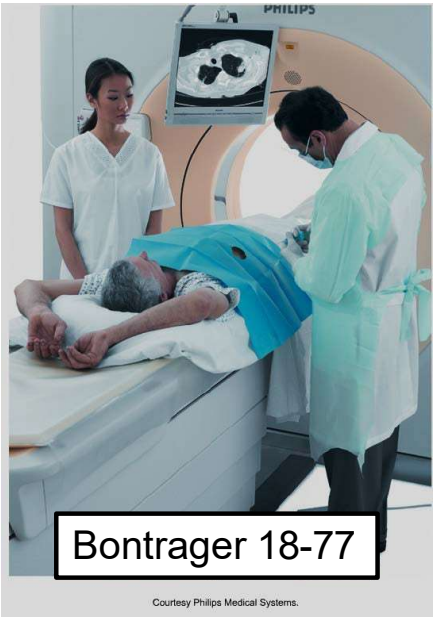
It is displayed in anatomical position.

Displaying CT slices anatomically…



Bontrager 18-37

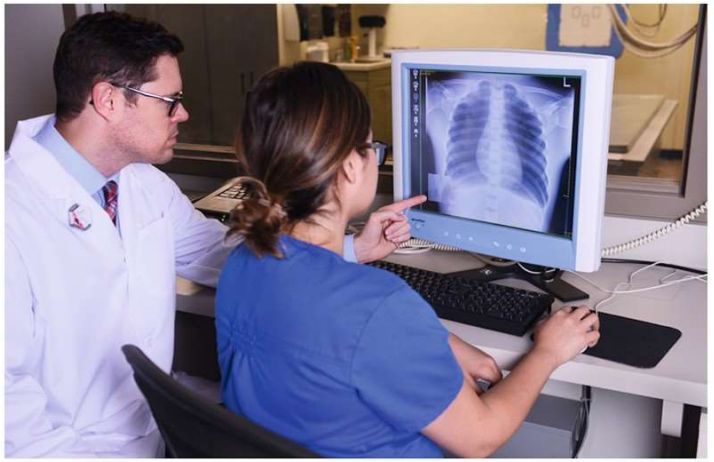
Regardless of how the patient is placed in the machine, CT images are always displayed as though the viewer was looking from the patient's feet towards their head



Bontrager 18-77

Placing Radiographs for Viewing

- Patient facing the viewer
- Patient's right to the viewer's left
- Lateral projections
- Decubitus projections

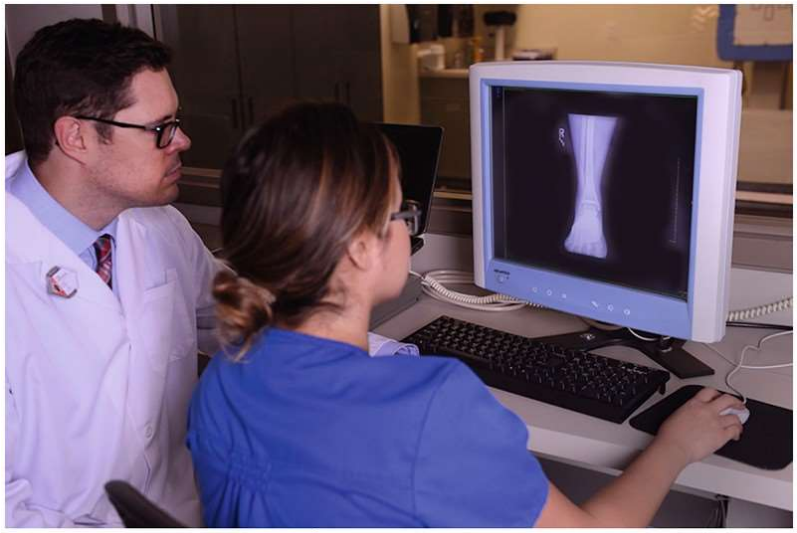


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Viewing Radiographs

- Limbs
  - Anatomic position
- Hands and feet
  - Digits up

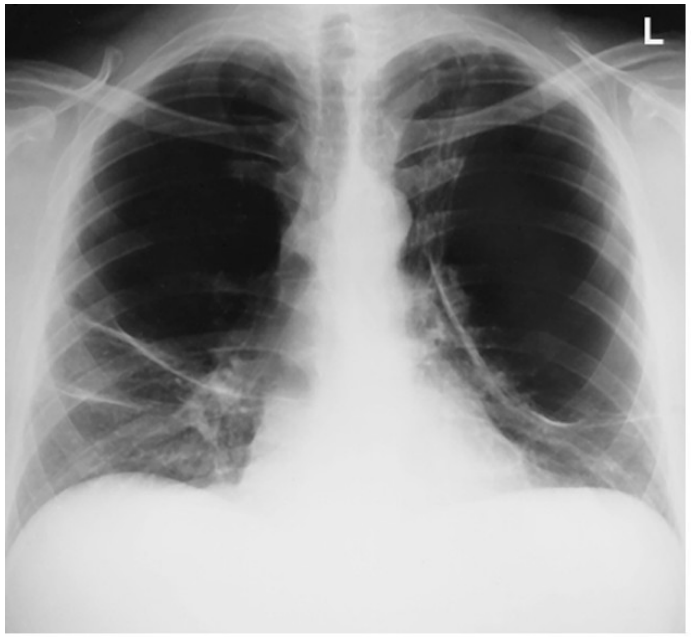


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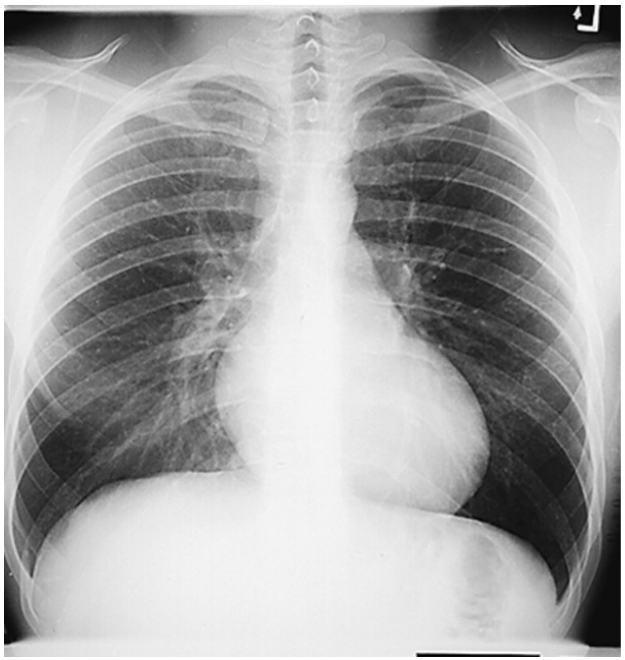
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Viewing Radiography

AP chest (L appears right-side-up)



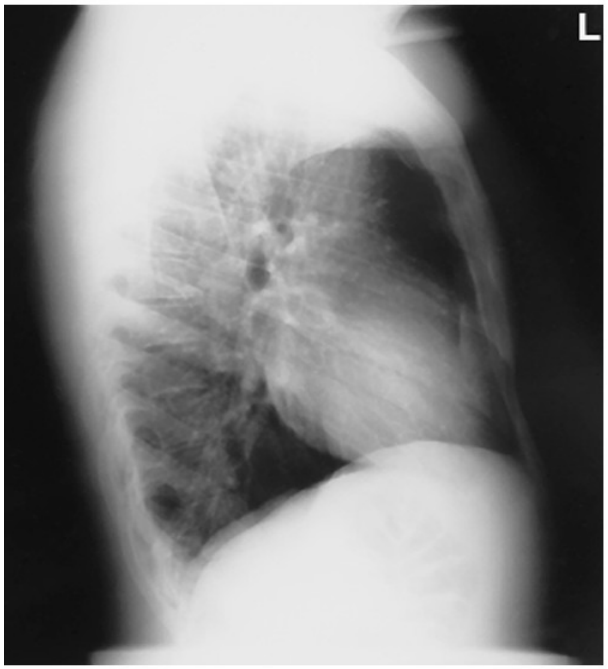
PA chest (L appears reversed)



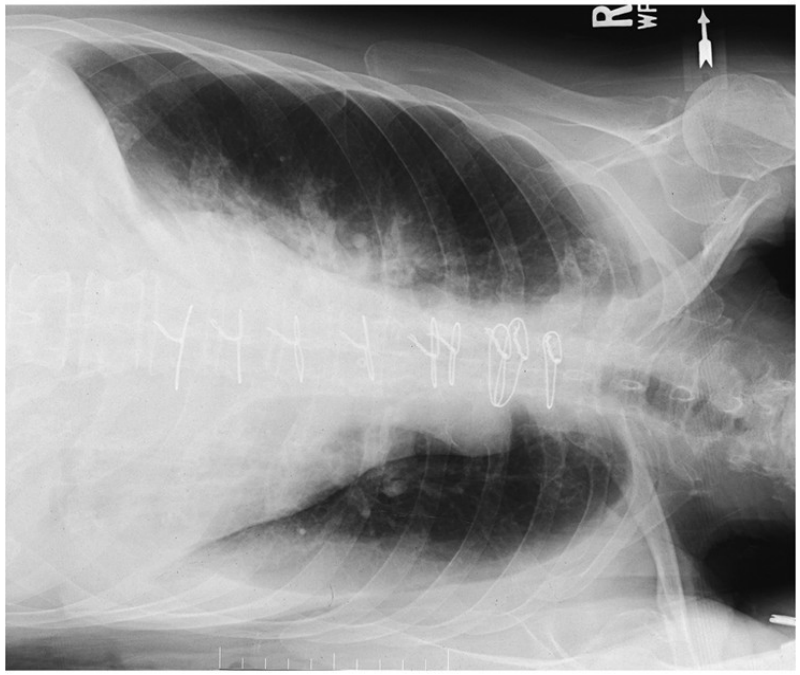
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Viewing Radiographs

Left lateral chest



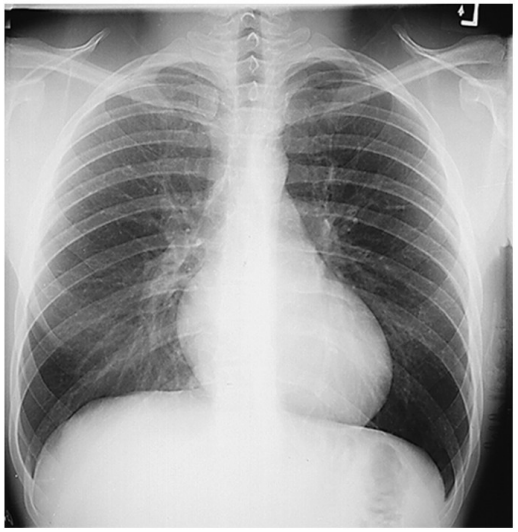
Left lateral decubitus chest



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In radiography:

The more <u>dense</u> or <u>thick</u> a tissue is, the more "white" it appears…



Bontrager 8th ed. 2-53



Air
Water/fluid
Blood
Fat
Bone

