



RADIOLOGY

medpgnotes

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KEY TO THIS DOCUMENT

Text in normal font – Must read point.
Asked in any previous medical entrance
examinations

Text in bold font – Point from Harrison's
text book of internal medicine 18th
edition

Text in italic font – Can be read if
you are thorough with above two.

RADIODIAGNOSIS

GENERAL FEATURES OF RADIODIAGNOSTIC TECHNIQUES

<i>Five R's of radiobiology</i>	<i>Radiosensitivity, repair, repopulation, redistribution, reoxygenation</i>
<i>Atomic weight is equal to</i>	<i>Number of protons + number of neutrons</i>
<i>Relation between wavelength and frequency of electromagnetic radiation</i>	<i>Inversely proportional to each other</i>
<i>Data is acquired as</i>	<i>Voxel</i>
<i>Data is displayed as</i>	<i>Pixel</i>
<i>Voxel based morphometry is seen in</i>	<i>Neuroimaging</i>
Virtual colonoscopy	Provide endoluminal view, CT and MRI use, Used when conventional colonoscopy fails, Used for screening for Ca colon, Biopsy could NOT be taken
PACS stands for	Picture archiving communication system
Angle made by 50% isodose curve with normal	Wedge angle
Hot spots in radiodiagnosis denote	Benign condition
Use of filters result in	Beam of greater intensity
Irradiations detected to produce visual image in thermography	Infrared
Protective shield is made up of	Lead
Radiation exposure is least in	Micturiting cystourethrogram
Radiation exposure does NOT occur in	MRI
Radiation hazard is absent in	USG, MRI
Maximum Radiation exposure occurs in	CT scan
Imaging technique giving maximum exposure to patient	Bone scan
Maximum radiation to patient	CT scan
<i>Maximum radiation exposure</i>	<i>CT abdomen (8 msv)</i>

X RAY

Centenary year for X ray	1995
<i>X rays</i>	<i>Can be emitted as well as absorbed</i>
<i>Focusing cup is a part of</i>	<i>X ray tube</i>
X rays are produced when electron beam strikes	Anode
X rays are produced when	Electron beam strikes anode
<i>20 - 50 roentgen</i>	<i>Mild lassitude</i>
Curved cassette is used for radiograph of	Mandible
X rays are	Modified photons
Major difference between X ray and light	Energy
Radiation does NOT give	X rays
Maximum scattering of X ray plate	H+
X ray emits	Electrons
<i>Penetration of X ray beam depends on</i>	<i>kV</i>

X-RAY FEATURES OF HEART

Maximum extent of heart in Chest X ray in children	55%
Upper limit of Cardiothoracic ratio in children	0.55
If right cardiac silhouette is obliterated, pathology involve	Right middle lobe
Consolidation of which part of lung will likely obliterate aortic knuckle in chest X ray	Left upper lobe posterior part
Homogenous opacity in right lung with obscured right cardiac silhouette. which part of lung is involved	Medial segment of RML
Left atrium is best visualized by	Oblique view
Left border of heart in chest X ray is formed by	Pulmonary artery, Arch of aorta, Left ventricles
Left sided cardiac bulge on chest X ray is due to	Enlargement of left atrial appendage
Earliest X ray feature of left atrial enlargement	Elevation of left main bronchus
Left atrial enlargement produces	Indentation of esophagus, Elevation of left bronchus, Double shadow
Left cardiac bulge is NOT seen in	Enlarged azygous vein (right sided structure)
Right side cardiac shadow in chest X ray	SVC, IVC, right atrium, Right brachiocephalic vein
Does NOT form right border of heart	Right ventricle, Ascending aorta
Heart shifted to left in PA view	Complete pericardial defect, Sternal depression
Obliteration of left cardiac shadow on PA view is due to	Lingular lesion
Does NOT form heart border in PA view	Aortic arch
Base of heart is formed by	Right atrium and left atrium
Retro cardiac shadow with air liquid interface	Hiatus hernia
Right anterior oblique view	Cassette near right shoulder, Arch of aorta best seen, Left atrial enlargement can be diagnosed
Virtually diagnostic of aortitis in chest X ray	Calcification in ascending aorta

X-RAY FEATURES OF LUNG

Chest X ray	40% of lung tissue seen obscured by bony structure and mediastinum , Right dome higher than left
Tracheal bifurcation on X ray correspond to	T4 T5, T5 T6, sternal angle
Related to arch of aorta	Tracheal bifurcation
Normal hilar shadow in chest X ray is produced by	Pulmonary artery, Bronchus, Upper lobe veins
Lordotic view is valuable in confirming presence of lesion in lung apex and also in	Lingular segment
All fissures can be clearly seen on	Lateral film
Miliary shadow on X ray	Tuberculosis, Rheumatoid arthritis, Pneumoconiosis, Metastasis, Pulmonary edema, Histoplasmosis, Sarcoidosis, Loeffler pneumonia, Varicella pneumonia
Miliary shadow in chest X ray	Mitral stenosis, Sarcoidosis, Pneumoconiosis
Bilateral mottling of lung	Military tuberculosis, Varicella pneumonia
Honeycombing of lung in chest X ray is seen in	Rheumatoid arthritis, Scleroderma, Interstitial lung disease
Ground glass appearance	Hyaline membrane disease, Pneumonia, Obstructive TAPVC
Heterogenous shadow in lung X ray is due to	Metastasis