

Xray

1. Which part of the body would you XR using a single screen cassette
C. extremities
2. The best XR to view the lunate is
A. AP wrist
3. Which film is taken with the arm raised
D. lateral chest
4. Purpose of the grid is
C. reduce scatter to the film
5. Most common type of scatter radiation
a. Compton
6. Hereditary multiple exostosis can lead to premature
D. DJD
7. Nonunion of the base of the odontoid can appear as a
B. Mach line
8. LD 50/30 means
B. 50% of animals exposed will die with a dose of 30 rads
9. A barrier is moved from 10 feet to 5 feet from source of film. To obtain same density of film
B. decrease MAS by 1/4
10. Most radiolucent to most radiopaque is
A. air/fat/water/bone
11. What is the disadvantage of a small focal spot
C. inadequate heat displacement
12. The function of the intensifying screens is to
D. convert energy of XR beam into visible light
13. The larger the crystals in an intensifying screen will
A. decrease sharpness
14. What is the function of the developer
D. reduces the exposed silver halide to metallic silver
15. Ideal time for manual processing is
A. 68 degrees for 5 mm
16. Order thru which electrons in an XR machine travel is
B. rectifier/cathode/anode
17. The converter to change one voltage to a higher voltage level is
B. step up transformer
18. Which is an effect of increased FFD
D. decrease distortion
19. Best protection to filter out XR is which substance
B. lead
20. Which technique uses a longer scale of contrast
I. 400 MA, 1/4 sec, 90 KVP
21. An increase in the MA of at least 30 % will
C. increase density
22. What will happen if the safelight is too bright
C. fog on film
23. A crescent shaped crease on the film would be due to
B. film was folded by a thumbnail print
24. Best XR to take for an anode heel effect is
B. AP thoracic
25. Jefferson fracture would be seen on which view
B. APOM
26. Lower thoracic IVF's are best seen on which view
B. lateral thoracic
27. The cervical pedicles are best seen on
D. oblique cervical

Xray

28. A circumscribed lytic lesion is described as
 - C. geographic
29. The 10 day rule applies to
 - A. you may Xr a female within the 1st 10 days following the onset on menses
30. Most common cause of spondylolithesis
 - B> traumatic
31. Martins basilar angle is used to measure
 - B. platybasia
32. XR reveals SI joint obliteration, bamboo spine and marginal syndesmophytes in
 - C. AS
33. Which disease can cause ivory white vertebra
 - B. blast mets, Hodgkins, Pagets
34. Osteoporosis from trauma is
 - C> sudecks atrophy
35. Calcification of the ALL in at least 4 segments in the cervical spine is called
 - C. DISH
36. Psoas displacement, pain and + mycobacterium indicates
 - B. cold abcess
37. Dead bone removed from an infection is called
 - B. sequestrum
38. Fracture of the radius with anterior displacement is
 - A. smith
39. An elongated L5 sp is termed
 - C. knife clasp
40. If you see a horizontal cleft deformity on a lateral view of a dorasal vertebra it is termed a
 - A. Hahns fissure
41. Cobb Libman is the best line to measure
 - D> scoliosis
42. McNabbs line utilizes
 - B. superior facet of the vertebra below
43. Best view to evaluate the sacrum
 - A. AP cith tube tilt 15 degrees cephalad
44. When taking a lateral lumbopelvic, where would the cross hairs be aligned
 - C. I/S junction
45. Which sign is seen when there is a unilateral spondylolithesis
 - A. oppositee pedicie is calcified
46. Best view to see sella turcica
 - D. lateral skull
47. Which is malignant
 - D. osteosarcoma
48. Best view to see intercondylar eminence
 - A> tunnel
49. Metrazamide is used for
 - B. myelography
50. The Y and X on the ischium or on the crest of the innominant is due to
 - C. epiphysis is not closed
51. At what age do you see ossification of the crest of the ilium
 - A> 18 years
52. How can you determine the progression of scoliosis
 - A. 1 degree per month is rapid
53. Which is least likely to be seen in the mediastinum
 - C. sarcoidosis
54. A large noncalcified differentiated nodule in the chest is probably
 - C. brnchogenic carcinoma

Xray

55. Best way to diagnose metastatic disease
A. nuclear bone scan
56. There is calcification which is parallel and found in left upper quadrant. This is
C. splenic artery calcification
57. What causes a mediastinal shift toward the anterior
A. pneumothorax
58. Most traction spurs are seen in
C. lumbar
59. Slipped epiphysis is most common in
A. proximal femur
60. What would describe thinning of bone cortex and loss of bone density
B. osteoporosis
61. If lumbar canal measures 10 mm it indicates
B. spinal canal stenosis
62. A retropharyngeal space of 5 mm indicates
D. normal
63. Why is cervical oblique taken at 72"
A. decrease distortion
64. Loose bodies in the joint space are seen in
C. osteochondritis dissecans
65. Which does not cause upper cervical laxity of the transverse ligament
B. DJD
66. Phleboliths in the pelvic area are
D. not clinically significant
67. There is calcification of renalureter junction with
D. kidney infection
68. Which structure is not visible on KUB
B. pancreas

Hilar region with strings:

Lymphogenous

Hilar region with junk scattered all over: Hematogenous

Single lesion in hilar region: Bronchial carcinoma interstitial pattern

LD 50/30 how many rads?

30 (50% died with 30 rads)

Vertebral rotation across the midline:

++++ (plus 4) look at diagram!

Subcutaneous calcification:

seen with scleroderma

Debilitated/alcoholic pneumonia: Klebsiella

Mikulicz angle AKA:

Femoral angle used to determine coxa vara/valgus

Increased acetabular angle:

Acetabular dysplasia

annular carcinoma:

persistent abrupt bowel obstruction

Focal spot size:

does not affect the pt. dosage of RADS.

Cervical lordosis}

Thoracic kyphosis}

ALL are 3545 degrees

Lumbar lordosis}

Sacral base angle}

Warped intensifying screens:

decreased detail

Xray

Arthrography:

to detect image of Rotator cuff tear.

Retropharyngeal space: 7nun or less=normal

MPD: Maximal permissable dose

Sexual precocity, and polystotic fibrous dysplasia and cafe'o'le spots:

Albright's Syndrome

Carcinoma of pancrease: Head

Source of secondary radiation: Patients body

String sign:

Regional enteritis AKA Chron's Dz.

Rare earth disadvantage: Inc. distortion and quantum mottle

Plate like atelectasis:

m.c. seen in lower lobes of lungs

A/C jts. more than 9mm space= Strain ligaments

DiD: Never causes inc. in AD!

Plumb line:

lies anterior 1/3 of sacral base

starts at EAM, bisects shoulder, hip, posterior to patella, ans anterior to lat.

mall.(12"). Look

at diagram in pink notes.

1 mm stairstepping in flexion view of cervical spine: NORMAL

Air bronchogram sign:

parenchymal lesion

Pneumonia:

consolidates

Active T.B.:

patchy area bilaterla in both lung fields.

cold abcess is assoc. WI it (a hard calcification along the psoas mm)

T.B. of skin: acne vulgaris AKA lupus vulgaris

Paget's AKA Osteitis deformans

Os odontoidium: base

Os Tenninale:

at tip

Primary hyperparathyroidism: HAND

Ochronosis:

Calcification of multiple IVIYS

Contralateral pedicle sclerosis: Accomidation with spondylolysis

Hadley's S curve: determines presence of vertebral subluxations (thoracics)

Eisensteins measurement <10 nun in adult lumbar: Spinal stenosis

Automatic faster than hand processing b/c: Higher temp.

Hillsack's defect: Hole an axial head of hunierousresults in chronic dislocations

of shoulder

019) AKA PFD Part Film Distance

FFD AKA SID Source image distance

Diastasis:

Separated syndesmosis jt. (symp. pubis)

Xray technique that uses metrizanude: Myelography

Braking:Bremstralling

Direct sign of atelectasis: Fissure displacement

Spatulazation:

Hypertrophy of L5 transverse

Hahn's Fissures: Horizontal lines in vertebral body

Soft tissue masses have rad. densities similiar to: Water

Coxa vara in adult:

<120 femoral angle

Pelligrini Stieda's dz.:

Media! femoral epicondyle, calcification of tendon

Chron's Dz.:

arthritis

Greatest protection:

1. high KvP, low MaS. 2. Collimation

Lt. ventricle hypertrophy and tortuis aorta: Hypertension

Expansile destructive lesion at the end of long bone and goes through epiphysis:

Giant Cell Tumor (&Chondroblastoma)

Which tumor m.c. in diaphysis: Ewings sarcoma and multiple myeloma

Hangman's AKA Bipedicular: Hyperextension injury

Femoral angle= 120130

Rarefaction:

Bone resorbtion: hyperemia in osseous bone.

Calicified pineal gland: midline in location

Ext. oblique: best to view radial head

Xray

Early ischemic necrosis of the femoral capital epiphysis (LeggCalvePerthes) most sensitive test:
Radionucleotide Imaging (Bone Scan)
chondroblastoma:
occurs in epiphysis
Uncovertebral jt's(Lushka) best seen: A/P lower cervical view
Lymphoma: Widening of mediastinal and enlarged bilateral nodular shadows.
Location of Y epiphysis: Acetabulum
Boehler's angle <25degrees: Calcaneal fracture
tumor m.c. in fingers and is radiolucent w/ punctate lesions: Enchondroma
Spondylosis: separation of pars interarticularis
AP coccyx requires a caudal tube tilt.
FFD is halved what change in tech. needed to keep quality: Increase it 4 times as much
Platybasia: Martin's basilar angle
Tube rating chart: Protects the machine
Technique chart: Protects the patient
Cold abscess: Infection (T.B.) that gets walled off in the psoas.
Density: MaS
Speed: KVP
Use of small focal spot results in inadequate heat dissipation.
Periarticular osteopenia noted most in: Rheumatoid Arthritis
Periarticular destruction: GOUT
Dose equivalent for human's: REM
Grid protects film from: Scatter
Optimum KvP for lat lumbar: 90
Clavicular dysplasia and wonnian bones: Cleidocranial dysplasia
Peritracheal and bilateral hilar adenopathy indicates: Sarcoidosis
Which chest Xray best shows the lung apex:
Lordotic view
Cause of vascular calcification: Hyperparathyroidism
Attenuation: decrease in Xray intensity as passes thru matter
Friction and decreased humidity (<60%):
causes static electricity
P/A & Lt. Lateral:
routine chest views
A forceful contraction of sartorius can cause avulsion fracture of:
ASIS
Senile osteoporosis: decreased quantity, normal quality All lab values are normal
Kinetic subluxation:
aberrant motion
Transformer: inc. or dec. voltage
Rectifier: AC to DC
Subcutaneous calcification m.c. in: Scieroderma
Vert. line in vertebral body:
Butterfly line
Magnification: inc. w/ dec. OFD/ dec. w/ inc. OFD
Paget's dz. uncomplicated m.c. site:
Pelvis
Wilm's Tumor: childhood renal tumor
Osteochondrosis AKA Osgood Schlatters: seen on Lat. view
Chondromalacia patella: Tangential view
Max. normal retrotracheal space: 22mm
to " pharyngeal: 7mm
> absorption of Xray in body=' bone

Xray

Focal spot size does not affect the patient dose.

Transverse fracture: Pathological

Hahn's Fissure: Batson's venous plexus

Superior sulcus tumor: Pancoast Tumor

Osteopoikilosis: Small round calcified lesions.

Suppurative osteomyelitis age group: under 12

Osteochondritis dessicans: loose bodies

Metatarsal head is evenly worn:

Hypoplasia

"uneven: Avascular necrosis

Sarcoidosis: adenopathy

mt vs. small int.: Haustra in Lg.

Least rad. to pl: lowest amount of MaS.

Nausea, vomiting, increased fever: Acute radiation syndrome

Rad. the operator is exposed to: scatter from patient

Most sensitive test to detect early ischiuric necrosis of the hip: Bone Scan

Occult stress fracture: Best test is Bone Scan

Oral barium contraindicated in: Colon obstruction b/c it is chalky and will cause constipation

Peptic ulcer: Stomach on lesser curve (Cancer on greater curve)

Acromegaly predisposes to: DiD

Small opacities scattered all over in the true pelvis: Calcified lymph glands

Klines: Slipped capital epiphysis (Iliofemoral line)

Mickelicz angle: coxa vara/valgus

V. Body w/ partial cleft in sagittal plane: Butterfly Spina Bifida

Patella Alta and Baha: cause chondromalacia patella

Intracapsular Xray contrast to examine a joint: Arthrography

Acetabulum and femoral head disrelation, best line to detect: Shenton's line

Shoulder pain, fever, : Osteomyelitis

Circumscribed, uniform, lytic: Geographic

Osteomyelitis: Seen with D.M.

Thin cortex on lat. margin of pelvis: Brim sign=Pagets Dz.

Causes of Ivory white vertebra: M.P.H. (blastic Mets., Pagets, Hodgkins)

Tooth like deformity: Teratoma

Staghorn calculi: kidneyseen on plain film

Abd. MIDLINE: PANCREASE

Bilateral renal enlargement w/ notable lobulations: Polycystic dz.

Thyroid cart.: Don't confuse w/ Vert. Art. Calcification

Rad. exposure is best minimized by Rare earth (depends upon choices!!)

Rt. 1W Cspine: LPO or RAO

AP full spine: Scoliosis

Azygous lobe in Rt. upper lung field

AP spot L5S1 tube tilt: 3035 cephalic.

Ant. V.B. normally appears concave on xray.

Most stable fracture of Cspine: A. bilat. interfacetal B. Teardrop C. Post. Arch D. Pedicle

Paget: Axial skeleton and Pelvis

Benign lesion: thick edge of bony sclerosis

PA w/ rib problem: helps demonstrate pneumothorax

Pulmonary metastasis on xray as multiple pulmonary nodules, varying sizes through-out: Hematogenous

Air bronchiogram sign: Lesion in parenchyma

Exit radiation: Makes latent image on film

Xray

Subcutaneous emphysema: see w/ rib fracture
Fergusons line drawn thru the center of L3 body
Fat pad normally seen in Xray film lateral
Myositis ossificans: post. traumatic nun injury
Fine grain, high definition, fine detail and high resolution are: From slow speed screens
2.5 cm mottled calcification in pelvis of 65 y.o. female Liomyoma
perirenal fat allows visualization of kidneys
Hydrops: enlarged gall bladder
Klippel feil synd.: Multiple blocked vertebra
Geographic: circumscribed and uniform
Metastatic Dz.: uniform flattening of vertebral body (not compression fx as in osteoporosis)
handle film in too dry of conditions: Artifacts (static)
Long wave is not a property of Xray
Purpose of adding filtration: Decrease long wave
Retropharyngeal interspace at C2: 7mm
Xray finding of infectious arthritis: Subchondral cysts
Cell most sensitive to radiation: Lymphocytes
Ochronosis: Calcification of discs
Best view to see pedicle in cervicles: Oblique
Mid axillary rib fracture best seen on: Oblique
Pineal gland: posterior to sella tursica
Dosimetry: measure radiation exposure
Scatter best limited by: collimation.
Post. fat pad: INTRACapsular effusion
Tech. for chest film: High KvP and low MaS
GH jt should not exceed 6mm
AC jt. should not exceed 1 mm
Marfan's: Bone long and tubular; Heart AN septal defect double jointed/hypermobility
R.S.D. (reflex sympathetic dystrophy) hand/wrist
McCullocks Angle: Coxa vara/valgus
Half distance: 1/4 MaS
iliofemoral jt: best seen in in, rotation
Rhomboid fossa: notch on clavicle
Ribs 911, full expiration and hold.
Bone absorbs the greatest amount of radiation.
Brodies abscess: similiar to osteoid osteoma; night sweats, and pain relieved by aspirin
Anode heel effect best used w/ largest film (AP full spine)
5(N18) REM; 20y.o.10REMS/year
Bone scan: best to find metastasis (40%)
Blastic/ Lytic: have hot spots (lytic more common 75%)
Eosinophilic granuloma: Wafer thin vertebral body
A.S.: Increase in rib diameter

1. The minimum ADI in an adult is
F. 3.0mm
2. Of the following which reduces exposure time and skin dosage to the patient.
B. high KvP
3. The greatest amount of scatter radiation is produced
A. Compton effect
4. Which combination of factors will not yield same density as others
D. 400 MA i 1/10 sec
5. When present, the azygous lobe is visualized in
B. right upper

Xray

6. Best color to paint the darkroom
F. any pastel.
7. When a patient is in the prone position which portion of the stomach will gas migrate
antrum
8. Which spinal structure are you apt to find radiographic evidence of MET's to the spine >
pedicle.
9. Patient has a blow to the top of the head. APOM views bilateral displacement of the lateral mass. DX is
Jefferson Fracture
10. An air-fluid level indicates there is gas within the peritoneal cavity, this could indicate which condition
viscus proliferation
11. A section of film exposed to light prior to process lag will appear on developing
black
12. Cessation of skeletal growth and protect patient from scoliosis progression is
B. kissers sign
13. Where is the target located in the FR machine
B. anode
14. Why is the tube angulated for an AP view of foot
A. demonstrates tarsal without dislocation.
15. Which decreases the amount of static electric it to which the XII. film is exposed
C. increase darkroom humidity
16. A lateral skull X-ray demonstrates which sinus just anterior and inferior to the sella turcica
sphenoid
17. Slipped capital epiphysis is a Salter-Harris type
>1
20. Which can be demonstrated on plain film
staghorn calculus
22. Brodie's abscess is often difficult to differentiate from
osteoid osteoma
23. Which is not considered
24. The primary disadvantage to rare earth screens
> increase quantum mottle
20. A focused grid is used with longer FFD than specified. What effect is produced
> grid cut off at edge of film
27. Normal developing temperature of 90 sec. automatic processor
C. 9 degrees
28. What part of the long bone is most radiolucent
I). physis
29. Which is triangular or rounded ossicle located posterior to the acetabulum
A. os trigone
31. Multifaceted. radiodensities of various sizes on plain film of abdomen indicate
A. mesenteric lymph nodes
32. carcinoma of the pancreas most often affects
C. head
33. An air bronchogram sign indicates
A, parenchymal lesion
34. * In an adult, coxa vara is diagnosed by
C. a greater than 120 degree angle
35. Purpose of supplemental filters is
> produce uniform film densities
30. Primary function of HAS
B. density
36. If I J, (11 device is most effective in preventing,
> grid
38. Combination of crystals and emulsion
> small / thin
39. The normal width of retrotracheal space does not exceed
B. 23mm
41. Multiple hereditary exostosis primarily affects which bones
A. long
42. Routine PA chest indicates a rib hili lateral it demonstrates
A. pneumothorax
43. What is meant by the 10 day rule
10 days after the onset of menses is OK
44. Which K-R view is for fluid level in sinus cavity
lying supine
45. Jioehlers angle is diagnostic for fracture of
> calcaneus
46. The low level density which appears on Kr,
> base fog
47. If the line compensator (controls voltage) is set too low the NR will appear
underexposed
48. Law of Bergin and Tribondeau
A. radiosensitivity of cell differentiation
49. Poor alignment of set rollers in an automatic processor causes;
B. uniform scratches on film

Xray

50. Which component promotes normal visualization of the kidney
> perirenal
51. Decrease L5 interosseous disc space, osteophytes is, Scheittrians subchondral sclerosis of facets is diagnostic of
> degenerative arthritis
52. Long extension and hypernephritis is characteristic in syndrome
B. Marfan's
53. Metrazimide is used in which X-ray procedure
C. myelography
54. Linear lines which blur out surrounding tissues
B. tomography
55. Quantity of X-ray produced is primarily determined by
A. MAS
56. Which is an example of inherent filtration
B. tube housing
57. Area of unsharpness of borders is called C. penumbra
58. When patient presents with nausea vomiting; and increased temperature and prostration it is typical of C. acute radiation syndrome
59. Hypertrophy of the 15th transverse process is called
B. spatulization
60. Fracture of the thoracic can be detected by
> spinous percussion
If you draw a line to connect anterior and posterior arch of C1 and another line A. 42 degrees
62. Person fell on arm and fractured proximal radius with separation of radial head
D. Monteggia
63. To diagnosis breast cancer which would you do first B. mammography.
64. On lateral skull which sinus do you see A. sphenoid
65. In osteomyelitis the healing process produces sclerotic; irregular called
F
1. Factors for AP lumbar were 2,00
> patient movement
2. What kind of filtration is in front of collimator
B. compensating,
3. Pathology that requires a decrease in exposure
B. edema
4. If film distance is halved and all other factors remain constant which change should be made to maintain similar density
5. Which technique uses a longer scale of contrast.
1). 400 MA, 1/4 sec, 90 KVP
6. What color is film that is developed but NOT exposed
C. transparent
7. Which XR best demonstrates foramen magnum
A. Townes.
8. To take oblique of cervical the patients position is 45 degrees to rilm and head s
P. rotated so sagittal plane is parallel to film
9. Best view to see the APT
A. lateral
10. To take an oblique NP the SID should be 2' 4"
E. decrease distortion
11. Dry series consists of 7, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000, 1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080, 1090, 1100, 1110, 1120, 1130, 1140, 1150, 1160, 1170, 1180, 1190, 1200, 1210, 1220, 1230, 1240, 1250, 1260, 1270, 1280, 1290, 1300, 1310, 1320, 1330, 1340, 1350, 1360, 1370, 1380, 1390, 1400, 1410, 1420, 1430, 1440, 1450, 1460, 1470, 1480, 1490, 1500, 1510, 1520, 1530, 1540, 1550, 1560, 1570, 1580, 1590, 1600, 1610, 1620, 1630, 1640, 1650, 1660, 1670, 1680, 1690, 1700, 1710, 1720, 1730, 1740, 1750, 1760, 1770, 1780, 1790, 1800, 1810, 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2090, 2100, 2110, 2120, 2130, 2140, 2150, 2160, 2170, 2180, 2190, 2200, 2210, 2220, 2230, 2240, 2250, 2260, 2270, 2280, 2290, 2300, 2310, 2320, 2330, 2340, 2350, 2360, 2370, 2380, 2390, 2400, 2410, 2420, 2430, 2440, 2450, 2460, 2470, 2480, 2490, 2500, 2510, 2520, 2530, 2540, 2550, 2560, 2570, 2580, 2590, 2600, 2610, 2620, 2630, 2640, 2650, 2660, 2670, 2680, 2690, 2700, 2710, 2720, 2730, 2740, 2750, 2760, 2770, 2780, 2790, 2800, 2810, 2820, 2830, 2840, 2850, 2860, 2870, 2880, 2890, 2900, 2910, 2920, 2930, 2940, 2950, 2960, 2970, 2980, 2990, 3000, 3010, 3020, 3030, 3040, 3050, 3060, 3070, 3080, 3090, 3100, 3110, 3120, 3130, 3140, 3150, 3160, 3170, 3180, 3190, 3200, 3210, 3220, 3230, 3240, 3250, 3260, 3270, 3280, 3290, 3300, 3310, 3320, 3330, 3340, 3350, 3360, 3370, 3380, 3390, 3400, 3410, 3420, 3430, 3440, 3450, 3460, 3470, 3480, 3490, 3500, 3510, 3520, 3530, 3540, 3550, 3560, 3570, 3580, 3590, 3600, 3610, 3620, 3630, 3640, 3650, 3660, 3670, 3680, 3690, 3700, 3710, 3720, 3730, 3740, 3750, 3760, 3770, 3780, 3790, 3800, 3810, 3820, 3830, 3840, 3850, 3860, 3870, 3880, 3890, 3900, 3910, 3920, 3930, 3940, 3950, 3960, 3970, 3980, 3990, 4000, 4010, 4020, 4030, 4040, 4050, 4060, 4070, 4080, 4090, 4100, 4110, 4120, 4130, 4140, 4150, 4160, 4170, 4180, 4190, 4200, 4210, 4220, 4230, 4240, 4250, 4260, 4270, 4280, 4290, 4300, 4310, 4320, 4330, 4340, 4350, 4360, 4370, 4380, 4390, 4400, 4410, 4420, 4430, 4440, 4450, 4460, 4470, 4480, 4490, 4500, 4510, 4520, 4530, 4540, 4550, 4560, 4570, 4580, 4590, 4600, 4610, 4620, 4630, 4640, 4650, 4660, 4670, 4680, 4690, 4700, 4710, 4720, 4730, 4740, 4750, 4760, 4770, 4780, 4790, 4800, 4810, 4820, 4830, 4840, 4850, 4860, 4870, 4880, 4890, 4900, 4910, 4920, 4930, 4940, 4950, 4960, 4970, 4980, 4990, 5000, 5010, 5020, 5030, 5040, 5050, 5060, 5070, 5080, 5090, 5100, 5110, 5120, 5130, 5140, 5150, 5160, 5170, 5180, 5190, 5200, 5210, 5220, 5230, 5240, 5250, 5260, 5270, 5280, 5290, 5300, 5310, 5320, 5330, 5340, 5350, 5360, 5370, 5380, 5390, 5400, 5410, 5420, 5430, 5440, 5450, 5460, 5470, 5480, 5490, 5500, 5510, 5520, 5530, 5540, 5550, 5560, 5570, 5580, 5590, 5600, 5610, 5620, 5630, 5640, 5650, 5660, 5670, 5680, 5690, 5700, 5710, 5720, 5730, 5740, 5750, 5760, 5770, 5780, 5790, 5800, 5810, 5820, 5830, 5840, 5850, 5860, 5870, 5880, 5890, 5900, 5910, 5920, 5930, 5940, 5950, 5960, 5970, 5980, 5990, 6000, 6010, 6020, 6030, 6040, 6050, 6060, 6070, 6080, 6090, 6100, 6110, 6120, 6130, 6140, 6150, 6160, 6170, 6180, 6190, 6200, 6210, 6220, 6230, 6240, 6250, 6260, 6270, 6280, 6290, 6300, 6310, 6320, 6330, 6340, 6350, 6360, 6370, 6380, 6390, 6400, 6410, 6420, 6430, 6440, 6450, 6460, 6470, 6480, 6490, 6500, 6510, 6520, 6530, 6540, 6550, 6560, 6570, 6580, 6590, 6600, 6610, 6620, 6630, 6640, 6650, 6660, 6670, 6680, 6690, 6700, 6710, 6720, 6730, 6740, 6750, 6760, 6770, 6780, 6790, 6800, 6810, 6820, 6830, 6840, 6850, 6860, 6870, 6880, 6890, 6900, 6910, 6920, 6930, 6940, 6950, 6960, 6970, 6980, 6990, 7000, 7010, 7020, 7030, 7040, 7050, 7060, 7070, 7080, 7090, 7100, 7110, 7120, 7130, 7140, 7150, 7160, 7170, 7180, 7190, 7200, 7210, 7220, 7230, 7240, 7250, 7260, 7270, 7280, 7290, 7300, 7310, 7320, 7330, 7340, 7350, 7360, 7370, 7380, 7390, 7400, 7410, 7420, 7430, 7440, 7450, 7460, 7470, 7480, 7490, 7500, 7510, 7520, 7530, 7540, 7550, 7560, 7570, 7580, 7590, 7600, 7610, 7620, 7630, 7640, 7650, 7660, 7670, 7680, 7690, 7700, 7710, 7720, 7730, 7740, 7750, 7760, 7770, 7780, 7790, 7800, 7810, 7820, 7830, 7840, 7850, 7860, 7870, 7880, 7890, 7900, 7910, 7920, 7930, 7940, 7950, 7960, 7970, 7980, 7990, 8000, 8010, 8020, 8030, 8040, 8050, 8060, 8070, 8080, 8090, 8100, 8110, 8120, 8130, 8140, 8150, 8160, 8170, 8180, 8190, 8200, 8210, 8220, 8230, 8240, 8250, 8260, 8270, 8280, 8290, 8300, 8310, 8320, 8330, 8340, 8350, 8360, 8370, 8380, 8390, 8400, 8410, 8420, 8430, 8440, 8450, 8460, 8470, 8480, 8490, 8500, 8510, 8520, 8530, 8540, 8550, 8560, 8570, 8580, 8590, 8600, 8610, 8620, 8630, 8640, 8650, 8660, 8670, 8680, 8690, 8700, 8710, 8720, 8730, 8740, 8750, 8760, 8770, 8780, 8790, 8800, 8810, 8820, 8830, 8840, 8850, 8860, 8870, 8880, 8890, 8900, 8910, 8920, 8930, 8940, 8950, 8960, 8970, 8980, 8990, 9000, 9010, 9020, 9030, 9040, 9050, 9060, 9070, 9080, 9090, 9100, 9110, 9120, 9130, 9140, 9150, 9160, 9170, 9180, 9190, 9200, 9210, 9220, 9230, 9240, 9250, 9260, 9270, 9280, 9290, 9300, 9310, 9320, 9330, 9340, 9350, 9360, 9370, 9380, 9390, 9400, 9410, 9420, 9430, 9440, 9450, 9460, 9470, 9480, 9490, 9500, 9510, 9520, 9530, 9540, 9550, 9560, 9570, 9580, 9590, 9600, 9610, 9620, 9630, 9640, 9650, 9660, 9670, 9680, 9690, 9700, 9710, 9720, 9730, 9740, 9750, 9760, 9770, 9780, 9790, 9800, 9810, 9820, 9830, 9840, 9850, 9860, 9870, 9880, 9890, 9900, 9910, 9920, 9930, 9940, 9950, 9960, 9970, 9980, 9990, 10000
12. NUB least likely to show

Xray

- > pure cholesterol gallstones
- 13 . On neutral lateral lumbar view,
 - a. vertical line from the center of the body of L3 passes to posterior 1/3 of sacral bast. indicates C. anterior weight bearing
- 14 . Case management. of idiopathic scoliosis , which line is best to evaluate its progression
 - A. Cobbs angle
- 15, Which level is most common for degenerative spodyiol ii hesi s
 - > L4
- 16. Which can indicate skeletal growth cessation arid can predict progression of scoliosis
 - P. Rissers'
- 17. What is the best film for the, hip
 - B. AP hip and frog leg laterait
- 18. The femoral neck is seen most. when ili.ofemoral joint is in
 - > interal rotation
- 19. You can best demonstrate the sacrum on AP projection with the central ray ori-ented
 - > 15 degrees cephalad
- p20. A notch like normal v,.ii rant on the anterior media] ;iSja ct ol the C 1 a v 1 c I e
 - 1). rhomboid fossaa I companion shadow
 - s seen with Lb s
- 21 P of ii hss 912 should be taken i
 - > full exhalatioi
- #22. Which XR is best to see AC separaion of shoulder
 - C. bilateral sLudies with and without weights
- 23 .characteristic of verterbral body compression secondary to met.astisis
 - > flattening
- .24. P of a patient with hemolyti c anemia is pti marl I y a L of
 - P. mania hyperplasia
- 25. Which tissue absorbs the greatest amount of' XR
 - 13. bone
- 26. Femur Xli on 8 yo male. periostealreaction
 - C. Ewings
- 27 . Anode causes uneven produc Lion of
- 28. What frequently micmics the XR appearance of a l3ro:ii es abcess
 - B. osteoid osteoma
- 29. WHich view uses andoe heel elect to its best advantage
 - > AP thoraeir
- 30. HAS by to obtain 50% increase in dcnsty
 - B. .50
- 31. 'The greatest racliograplii c density is achieved eith which exposure factors
 - II. 1/4 sec @ 500 MA
- 32 . Shoulder XR. of 65 yo male shows uneven pattern of bone density in the homera head/ thick cort e v/ eni a iged head no flattening of art icu.1 al' surface/ ex-ceril urated
- 33 . Decrease image detail may result from
 - P. warped intensifying screens
- 34 . Fly wh i ch process are ci eel roris suppi ted by the ca thode Of the XR tube
 - A. thermionic emisssion
- 35. Grid ratio is defined as the ratio of the
 - to the

Xray

- > height / distance
36. is not a property of' Xli
> lens wavelength
- 37 . The disadvantage of using a sma..I 1 focal spot .i s
11). inadequate heat dissipaton
38. Xli image is gerenrated and electron is ejected from one orbi C
to another
> characteritjc
40. When you touch the inner surface center of I ntens i lying
screens it may cause
A. screen abrasions
41. To produce greater image detail you should use a coinoi not uu
of crystals and
emu I si ens
small/thin
42. If the safe light is too bright, what will result an r0m
> fog
43. The maximal permissible dose of accumi ated ion zing radiaiton for radiation
workers is
44. Which age group has supperat ire osteomyei it in
A. under 12
- 45, I ntraart icular loose bodies are seen in
C. osteochondritis dessicans.
046. A patient presents with an elevated Eli C. phos increase(I pelvic radiopacity
and distorted outline or bone. DX is
B. osteitis deformans ipk
47. An evenly Fattened 2nd metatarsal head adjacent to a normal joint space is a
result of
E. hypoplasia
- 4 8. Aggressive malignant lesion has a /
8. pmeative pattern
49. A chest XR shows horieg'eiiious lobar density and traphiai deviation to same
side
p. ateleetasis
50. Sarcoidosis on an Xli demonstrates
A. adenopathy
51. Chest Xli shows increase AI lung diameter, flattened diaphragm increased r'etro
sternal air space. DX is
C. emphysema
52. An abdominal aorta which mesures more han 4 cm on a lateral
B. an aneurysm
53. Which radiographically oiferenrj.at.es the large lutes 1 from the small
B. haustra
54. lihich. produces the least. amount. or radiation
B increased KVP/decreased HAS/increased FED
55. Nausea, vomit i ng , rising fever and prostration are is yp ira
C. acute radiation syndrome
56. WIllici device is best. to prevent scatter
B. grid
57. Which is the major source of radiation to operator
B, scatter from patient
- '58. The function of the intensifying screen I s to
> convert energy of XR beam inot visible light
59. Most, sensitive for ischemic necrosis
A. radionucleid

Xray

60. Which Xli views an occult stress fracture
A. radionuctei bone scan
61. An oral barium study is contraindicated in people with
>colon
p62. predisposes to early D.JD
> multiple hereditary exostosis
63. Multiple small radi.opa.que densities, randomly scattered
throughout the pelvis, most likely indicate
A> calcified lymph glands
(dl. Which Line is used to diagnosis vertebral I isthcsis
A. eorges.
65. Drawing a line along the lateral margin of the I lion extending along the femo-
ral head, determines 1). SkU
66. Which determines coxa vara/valga
> Michelicz angle
67. A vertebral body with a partial cleft in the sag i to I p Lane
> butterfly vertebra
68. The greatest vertebral rotation in a scol tosis is called
> apical vertebrn
69. Patella aita is found with what knee condition
> chonjromJeja pFitP11R
70. intracapsular XR contrast exam of joint is
H. arthrorRph
71. A 2 month history of hip pain, small fragment C. TCP
72. Anterior body wedging, s.chmorles nodes, decreased disc spore at. contigotis
levels Sheurrnanns
73. Osteoporosis secondary to a neuro\'asctl tar condition is duo to
U. reflex sympathetic dystrophy
74. WHich tumor most often affects middle age and eider!
P. metastatic disease
75. Sclerosis and hypertrophy of anterior arch of A is seen in
> atlant.oaxial instability
- 76. What is best XR for lung apices
ft. lordotic
77.
S. Lateral chest R
arms in what position
> arm above head with elbows elevated
79. A slipped capital femoral epipysis is a Sn lterlJa iris
type fracture
A. I
80. The most likely area for metast isis
> spine
hi.
- 82, lateral. lumbar AA.R a line drawn on inferior end plate of'
vertebral body and extended to posterior hhru the art iculaj
process is called
A> Me Nabbs
- 83, The best view to evaluate the 1.5SI disc
C. L/S spot
AV Evaluation atlatoaxial motor unit
I). posterior cervical
- 85, McGregors line is used to indicate 1). basilar impression
86. Which line or angle visualizes the di srelati onshi p between the femur and the
acetabul urn

Xray

> Shenton

1) > () steomye t I t i

H6. A lesion which is circumscribed and Ulil torm, i,], v ly t i ("15 best described as

1]. geographic

89 Osteomyelitis

is frequently a complication of'

B. diabetes mellitus

f 90. Thickening of the cortex along the lateral margin of the pelvic basin and iliopectineal line is called a > brim sign

*91. Which condition presents with an ivory vertebra

B. Hodgkins, blastic mets, Pagets

92. Toothlike density mass

> teratoma

93. can be seen on a plain film of the abdomen

P. staghorn calculus

94. Calcification which is seen on IR along abdominal midline

C) pancreatic calculi

95. Xh which shows bilateral renal enlargement with notahlu [0 bul at ions

n:, polycystic disease

96. Calcification of _____ is often mistaken for atherosclerotic plaques in the vertebral arteries

97. Radiation exposure is best minimized by which screens

B. rare earth

98. Which is the best view to see right ICA in Cervical spine

B. LPO

99. AP thoracic view, the cathode should be closest to the

A. floor

100. When present the azygous lobe is found in which wig tieid

>

101. AP full spine Xh most appropriate, te

102. AC spot. of P5/Si tube tilt should be

0. angled cephalad

11) 3. the normal appearance of anterior contour of thoracic vertebra,] body j

C. concave

105. Where does Pagets generally occur

-axial skeleton and pelvis

106. Which XLI finding indicates a benign lesion

A. thick edge of bony sclerosis

108. Wilcocks mechanism of pulmonary metastasis appears as multiple pulmonary nodules of varying size

C. hemogenous

100. Air bronchogram sign indicates a lesion in the

A. parenchyma,

XRAY

I XU finding in ketjii in tho;e with hnnol 't i. :inniej primarily due to

n) marrow hyperplasia

2

Which technique is used for

5; it to the)erei

ARLI:

e) I) KVP. (W MAS, 84 MN, i.0 f'FP.

(ilv(i4t11ec.

What is the rationale for using a 'A client ci P a

iCi(Her] es:

Xray

dl lung pathology may cause thoracic pain
Which \,p
in best to see minimal I:Illerai effusion:
c)
Lateral decubitus
5. A traumatic
separation or the C :iL is hero tcHzcd by
displacement of the
a) superior/ clavicle
. (3.
Where is a pleural effusion 11s0a1 t locateU:
c) eostophrenic angle
c h imaging technique I s best t c. demons L 'c e an "cc" I
tr'rss f
a) radionuuleicje bone scan
, h.
\ bone tumor matnia
which demonstrates left
jI)5 ui
amilent opacities is most. likely of li c: Lu:
cartilage
9, Sbentcia's line evairtaics:
) slipped femoral capital epiphysi.
I U. \. round, ;i_ 01 diamond shaped piece or bone in the most cnj)naIacl portion
of the dens in a pt K 12 yo is: 0 1 ossiculurn terilhinale
ii . A Lh.ri vertical curvilinear calcification lit to the iiglu (T
the spine in an AP lumbar of a PS yo:
a) aortic aneurysm
12, What are the breathing instructions the t in an; or the
lumbar spine,
a Jet breath out and hold
13. A hangman's f::: an a ix of the:
dl pedicle of
%.14. \rt.)rn i
secondary to apophynea I art }mioni S USIO Lt. mnii
in which pattern:
dl anterolisthesis
.15.
mlceieta.i dysp.Iasa c)aIaater fred b
]acinulal ç5s 1]5ji
101
Wonmel an hones.:
a) cleidocranial. dypasia
iti, Which sesamomd hone is located in the lateral head of 1
gastroc: a) us fabeila
17. Reflex sympathetic dystrophy is usually preee)cci ha:
a) trauma.
1 IL Metastasis most. often affects which:
b) vertebral Which has the greatest effect on reel .i ogro p i c contrast:
a) penetrating power of the XR beam
20 . Which view best demonstrates spina bitida noun Ito
dl AP
I.. Tn radiate cartilage is part. of:
a) acetahinl ann

Xray

23. Grid ratio
at li ol
to
a) ht of lead strips to the distance btw the 'fl
23, Which a goats necliastitial widening and large hil"terai
C) lymphoma.
21. klJB is least likely to detour:] ate:
dl pure cho teternl a] stones
25, hI bow pathology is mo stl likely indicate] if a lii eta
demonstrates:

C) post fat pad
2h.
general I y I ndic baa benign Lea ion:

dl thieh edge of bony sclerosi
27.
is indicated when t)o lumbar gravity line is posi
to
facets: 5, Si

ci ant wt bearing
25,
best. show the maxi] iary pinup:

a) Water's
29. A sina i I segment of necrotic sUoc an I
to al ihn m"001
femoral candy) e is monk likely:
a) osteochondrlijs dessicans..
30, CI shia dark shadow in ajt margin at His
c) intradiscat ga.
3). On an AP spot film of 15,41 51 the tube tilt should hn:
a) angled cephajad
32. APiny shovler's fx is a
C) avulsion
_ would improve quality wiub aecp.int orii ant , ion1)
cienh overall density:
hi double MAS only
3, Tho most common elnow tv in adults is
C) radial head and neck
.35. Fhc qiant its of electrons :n [be iihIo sttecn in
dependent on
a) heat of the filament
30. Condition with widespread mu) tinln vnnIi :iiclrni i ted O\ RI
donna] I. tea is:
a) osteopoikii.osis
37 I;inc 70 KV) and 3d() 9\ t
/0) receives yon San:
a) 30
35. WhUh biological .irmto.'actj.oi produces I ho taming inc. ollEoll 9 01
hI atom]oni"atior
39, Mechanism 0] pulmonary metastasis appears as ii pl0 pulmon
ary nodules:
a) hematogenous

Xray

4)) .4 twin stairstepping noted on a ftcrior i)ci of time Cspin(indicates:
hi normal finding
41 Left ventricular hypertrophy anct a tortuous aorta are seen in: a I HIN
42 A h exposed to light before processing g wili appear:
a) black,
43, What; tests the integrity of the transverse ligament in the upper Cspine:
a I ADT
44, ii Lb 50/.C) for acute whole body radiation is ___ rads:
P) 4()
iS. SlurP type of artlitil is is un iatei:il or as,smdojujat to: dl DISH,
iS. Which view should he taken in a routine eu;)l hr hip il:
hi A? and t frog leg tat
11. Pt with shoider pain, hs of Fever and lOfrl iou. .tS dio.:
central diaphvseal deotrtoL or
a) otteomyeliti
42 Which is the best view to r'e the l)I
b) lateral
IS is the consequence o using nasmall small focal 4pol:
0) inadequate heat dissipation
SO. Which is iid bated by two thin paraL Ui t.iues
51. Fn which lumbar iew is the pals best we":
(I oblique
52. Which view requires tubeanui 1st ion:
c I A? foot.
si. Stress studies of C it, di tf.
Sir' rifi ttO loll cot :y
Lv
space greater than 2 mm =
in
injured
sho"ldr:
C) sprain
51. What color would the [11Th be if it ice put tutu I oessor without hemp
d\elc:cd: di transparent Shit \II indicates sarcoidesis: a) B/L hilar adenopathy tL
Slal oitw to see pars in lumbar: c I oblique
F? HAS i'cui.Lntes: density
1k PCI iic al 0Ii is on ii
term i.€uiiu tu
dl production of a unidirectional election stream
thru the cathode.
59. Which periosi cai rrn indiostes a soHi) y pt04010t;I\ epalluo
P y P
sunburst
HO. Automatic film processors are faster than manna! procenhor~,
due to; ci elevated temps
(ii To rule out Ix of the ('spine which projection shu"Id K:!! completed and evalu-
ated first: a) APOM, AP lower cervical and neutral latera.i
NY Parowed interosseois is disc space, or) eoptuy) osu s and rid
chondra l. so Lerosis of facets and endplates is most the)
ci discoenic arthrosis

Xray

(iF. Pathology necessitates a decrease in exposure technique iii;
hi emphysema
64. Persistent active hyperemia will cause which alteration ill not ma] osseous ar-
chitecture: c I bone resorption
' (iS. The invisible image which is produced in the film emul rior h exposure to
light or XRs is the image: a) latent
66 . Pi n& speed screens are not used when:

d1 maximum detail is critical
• \ OCfltlr'S angle 0) 1055 than d0 i0
110 H I ic' H di
a I a: a) cajcaneaI tx
t%. Which NH Circling may l)(found it (11 S() 1IE11iIII;ll 01: or the
ate
it schmorl's nod"Fit), Fl it 0 t absorbed (lose:
0) RAD
(. During an exposure et I he al era) tilc,I1..lr pina, ia PCbreathing serves
to

:) bhir the superimposed .1 nn and rib st rtictiire
ul • P tIIIOO fiiampnfs are usual!' composed or:
h) tungstop
72 What is the position of I lie tower (H' iFiil)! I
in all A1 011110
I \1(view:
L)

mt rot
73. he
purpose 01 0 c:0IfllIefls::tory f It 01 5 to:
hI overcome areas of object densities in order to
produce better densities,
7) lii:h term best describes earaver:r ossri l(rI ion elite) e'oteeds from vrvt
endplate margins a a a l'ei 1 I 1) SPFOlI0:J 1 SC 11 ilLropa rh : C I syndesmopkiy
75. [as that affect the eriphvsr are:
a) SalterHarris
• Ineposed silver halides are dissolved in iiJ S 1011 ny:
a) tixer
77, Which to of the Cspine threatens the Ice
'ci :1 is:
OdOflltOld
7() [J(' is n disadvantage 0.1 rare earth Sc
I increased quantum mottie
Iti. Which nerrgriat ion of ve°ii rot is aasioied to a aellr:Ir Vlllcl
shows one edic to ;:c cosn the mi d
too and of' ahseit
d) + + + +
"Ho.
1) Shi lb S I (0 do
OiI 010 the 111115
°Pi(
erC:
Ci tordotie
which techi rilpue best. for detection of early metastanis:
C I rad lonuejeoti de hone scan

Xray

I 1 ' in
effect 0 tO I
0(1 h1 I
a) ,lecreased pt exposure
Li , Chamberlain's arid McGregor's are used For: a) crevicooccipital
• Which is ho Lest do for :
increased a) phrr, in I a itch
disrupt(1
hone:
C) osteitis deformans (Prret's)
' 8:5. Which view in the lumbar spine is best, to vies th tVFs:
a) lateral
8(5. Subcutaneous calcification is most common in:
b) scleroderma
' \$7. lh yo ma] e, solitary dense, sclerotic, enlarged Li, normal ca It eve] s and
increased al k phos a) osteogenic sarcoma,
\$8 An acnte.v iii and debilitated pt with B/L upper lobe consol
idation and areas of lung cav:iiii't.rion most likely has
pneumon l ii
C) cJebsieka
49. s n de({ aPc1 In
fliH(tr: decreased OH)
.91. loinaripi olac;
occur most yontIS'ri
a tile
verl
• An lfl l ac;oct ace I etli lji angle ifCeI
Ii PC \
b) retrrhter dysilasia
• Persistent abrupt
0Cc I (Cast 1st iOn I nO ii:oi Cs
c
S Most dangerous form of radiation o I lamma
You have .5 inherent Al filtration, ohow much added fi j
inn needed,
10 You sr' e an ohilutic shadow hire ihe fat pad and bnn .
dl oil. Proper sequence for developing or ti
ol wash, dry
12. What sill cause a yellow gray appearance on on NH in
o 1 too long in Lhe Fixer
• Why do you agitate the flint when in the love Inpor:
a) to get rid of the hubbies
14. hhs bone is most affected by he inhock s 0Stoh di'n;
o) tunate
5. Plrpllicnl fat pad sign is best soon on
hi lateral el how
IS. if a ehoi Fder di sLcrcaIe5 inferior, there toes ilts terrin lot ptorass go:
hi superior
17, H you VincI at increase itt bone deunity on a plain I rn ',
what. is the non. nt en:
dl hone scan
18. You 001110 across what appears to be a slenot I v I unii.ar op inn
cana F on a plain ii I rn Sent step:

Xray

coinputorized axial tomography

119. Best Xli to see .1 umbar i ret tr .i In

e) angled lurnbopetvic at 36 degrees

21) What is the benefit of a rotating anode tube as compared to a stationary tube?

U) dispersion of heat

21 (pon iispijiion the diaphragm 1100 not loser.

!his

s seen

2 An NP

MK

1

a I Small. Intestine

1. Deflection of an electron close to the nucleus of a target atom which produces Xray:

c) roentgen

2. Appropriate SID for a lateral thoracic is:

b) 40

3. Exposure time of 1/10 of a second or less is taken for which view:

c) PA chest

4. Which best expresses the 10 day rule:

a) females of child bearing age can he

Which relative hylar position on PA chest:

c) left is higher than right

6. i7yo soccer player persistent calf pain. Soft tissue calcification on XR:

a) myositis ossificans

7. Which is the most likely dx for a pt. with narrowed interosseous L5 disc space, osteophytosis, subchondra[sclerosis of facets and end plate sclerosis:

a) DJD

8. Blurred brorichovesicular markings and a hairy appearance in the hilar region are suggestive of:

interstitial edema

9. Mucosal defect on the lesser curvature of the stomach on a GI series indicates:

a) ulcer

10. Which is not an etiology for atlantodental interspace of 5 mm. in an adult:

d) DJD

11. Cornminuted fx is characterized by:

b) one or more fragments along the fx line

12. The target is located in the of an XR

machine:

c) anode

13. The lateral thoracic XR is taken during respiration to:

a) blur the superimposed ribs

14, Lateral skull at. 68 KVP and 200 Mas displays the proper den
sity and too much contrast. To improve contrast KVP

would be used with 100 MAS:

78

15. Which technique exposes a pt. to the least amt of radiation:

e) 110 KVP, 100 mas, 85 FFD (highest KVP w/ lowest mas)

16. Which is a notch like the normal variant on the inf medial aspect of the clavi-
cle:

c) rhomboid fossa

17. An XR of the elbow shows an irregular localized soft tissue mass, narrowing of
the ,jt space with localized radiolucent defects in the olecranon. Which is most
likely dx:

a) Gout

Xray

18. An XR film which is used after its date of expire is likely to demonstrate excessive:
- d) discoloration
19. Dx for ant body wedging, multiple Schmorl 's nodes and disc narrowing:
- c) Scheurman's dse.
20. Chest XE of a 29 yo female with recent wt loss shows mediastinal widening and pulmonary infiltration which radiate to the lung fields from hilar regions. Best dx:
- a) Hodgkins
21. On a recuinbant view of the abdomen gastric air is visualized predominantly in the ___ of the abdomen:
- c) rdia
22. Normal max. size of retropharyngeal tissue space in an adult is ___mm:
- b7 (retrotracheal 22mm)
23. Pacionian granulations:
- d) outpocketing of arachnoid into table
24. Which is a disadvantage of using a small focal film spot:
- e) inadequate heat displacement
- 25, Which XE view is most appropriate to view lumbar facet imbrication:
- d) oblique lumbar
26. The appropriate time relationship for developing, fixing, washing film during manual development at 68 degrees is
- b) 5, 10, 20
27. Focused grid employed with longer focal distance than specified will produce which:
- c) grid cut off edges of film
28. Which is not visable on plain film XE of a normal abdomen:
- c) pancreas.
29. A Brodies Abcess is often difficult to differentiate from whichtumor:
- c) osteoid osteoma.
30. Before you are able to see hone loss on an XE _____% must be lost :
- d) 3050
31. Which is not a common sign of atelectasis: "
- d) depression of diaphragm
- v32. Exceptionally small kidneys seen incidently on a lumbar XI? could indicate:
- d) hydronephrosis
33. An 80% spondylolisthesis is classified as a grade according to Myerding:
- ci) grade 4
34. What is the most clefinitve method for demonstrating spinal stenosis:
- ci) catscan
35. XE procedure in which dye is used for visualization of gallbladder ducts:
- b) cholangiography
36. Phieboliths are classified as calcified
- b) venous thrombi
37. After a lesion is noted on plain film what study should be performed to demonstrate the extent of skeletal metastasis:
- c) bone scan
38. Which procedure best demonstrates calcification within a pulmonary nodule:
- d) tomography
39. Which isotope is used most frequently and produceds the best overall results in bone scanning:

Xray

- a) Technitrum 99
40. Which XE findings indicate presence of a progressive malignant lesion:
e) permeative pattern
41. Which is not characteristic of Multiple Myeloma
ci) diffuse peristeal rxri
42. During cervical flexion physiological stress lines cross normally at, the interspace btw:
b) 05, 06
43. Which cervical XR demonstrates hypermobile subluxation of C1C2:
a) flexext laterals
44. XRs show B/L kidney enlargement with noteable lobiilat ions indicates:
b) polycystic dse
45. Which modifies the structure of the R beam:
a) filt'tthi'
46. Increased thickness of active layer on the intensifying screen does not result in:
c) image detail improvement
47. Radiographic demonstrations of fluid levels in the sinuses requires which:
d) erect
48. The inverse square law is utilized to determine the:
h) intensity relationship to distance
49. To he sure that the upper teeth do not obliertate the odontoid or remain superimposed at the base of the skull on an APOM, what post ion should be used:
a) lower the chin
- 51 The lesser trochanter is best viewed on:
d) frog leg of the hip
52. Multiplying mAS by a factor of _____ results :1 n a 30% decrease in density:
a) 0.5
53. Which XR finding is typical of lumbarization:
c) Si with characteristics of a lumbar segment
54. An area of increased uptake on a bone scan is a result of:
c) increased bone activity
55. Chest. XR with fluid below lungs and above diaphragm:
b) diaphragmatic inflammation
56. Which is indicated by the XR appearance of severe B/L erosion of inf borders of 4th9th ribs:
d) coarctation of aorta
57. Pectus excavatum will create which XR appearance of a PA view of the chest:
a) poorly defined right heart border
58. Gross heart enlargement with B/L hilar infiltration and pleural effusion suggest:
d) congestive heart failure
59. Cardiac shadow which occupyes 70% of the thoracic diameter on XR without sx is:
c) cardiomegally
60. Hypertrophy of L5 TP is:
a) spatualization
61. You will not see large amts of gas on a normal adult XR in which structure:
b) small intestine
62. When proper radiographic detail cannot be obtained because of excessive object film distance which adjustment will improve detail
d) FF1)
63. To maintain an accurate source image distance for recumbant radiography, tube tilt should be _____ by
for every _____

Xray

- 6 degrees of angulation: decreased, 1 inch
64. The film fixer fxns to: c) clear and harden film in the emulsion
65. A small segment of necrotic subchondral bone at the lateral margin of the medial femoral condyle is most likely:
osteochondritis desiccans
66. A missing pedicle on an AP film suggests:
d) lytic metastasis
67. Fr is suspected but not demonstrated on initial film. Additional studies shows callus formation in days:
c) 14 (1014 days)
68. Pathognomonic XR evidence of primary hyperparathyroidism is most likely seen on which XR film series:
a) hand (lacey periosteum)
69. Which view of the chest best shows small amounts of pleural effusions:
b) lateral decubitus affected side down
70. Primary radiographic fxn of MAS:
c) density
71. Which is least radiolucent:
h) bone
72. Inappropriate variations of does not result in distortion.
h) grid ratio
73. The best radiographic detail is produced by:
a) slow screens at 1 mm focal spot
74. Which is defined as an unequal magnification of different proportions of the same object:
b) distortion
75. To eliminate the effects of anteversion of the femoral necks the pt's feet should be:
b) internally rotated 15 degrees
76. The collar of the scotty dog
e) pars defect
77. In which spinal disorders are the apophyseal joints and discs usually normal:
a) DISH
78. Which condition occurs most often in teens and is characterized by deep bone pain and is relieved by aspirin:
d) osteoid osteoma
79. DJI) which affects articulations B/L vert bodies:
c) spondylosis
80. The body bridges which form parallel to the vert in AS are known as:
d) syndesmophytes
81. Disc thinning at L4 which results in slippage of L4 on L5 is classified as a spondylolisthesis:
b) degenerative
82. Which is used to indicate cessation of skeletal growth and to predict the progression of an idiopathic scoliosis:
h) Risser's sign
83. Designations of vert rotation, 1 pedicle across midline and another not visible
d) 4+ sign
84. Hadley's curve is used to determine:
e) subluxated vert.
85. The normal max size of the AOl in an adult is:
d) 3 mm
86. Osteoid osteoma in what structure:
d) post. arch

Xray

87. A well defined radiolucent lesion, sclerotic rim located in the diaphysis and sparing the articular surfaces is:
e) fibrous cortical defect
88. The first changes due to Legg Calve Perthes disease which is visible on plain film is:
d) radiolucent crescent on the femoral head
89. Which fracture generally heals poorly and frequently results in nonunion is:
e) epiphyseal
90. A fracture at the distal radius and ulna with a silver fork deformity is known as:
d) Coile's fracture
91. Multiple punctuated calcifications distal across midline of abdomen are:
-pancreatic calculi
92. KUB evaluation of the kidney, you normally find the left kidney than the right kidney:
larger and higher
93. Multiple round opacities in the gluteal area exhibiting sclerotic margins and lucent centers are most likely caused by:
a) calcifications of previous injection sites
94. Which cells are radiosensitive:
e) lymphocytes
95. Chalky appearance of KUB is most likely:
a) inferior quality of film emulsion
96. The conversion of silver halide to black metallic silver is a function of:
d) reducing agent
97. On a KUB radiograph which is not a normal point of narrowing of the ureters:
- ureteropelvic junction
98. The combination of crystals and emulsion will result in greater image detail:
a) small / thin
99. Film artifacts which resemble trees are caused by:
b) static electricity
100. The inferior part of the epiglottis is normally visible on a lateral C spine pointing in which direction:
e) posterior and superior
102. Over 18 years old what occupational dose is allowed:
- 5 REMS 5(N18).
103. Which is the best X-ray technique to find abdominal aortic aneurysm:
- diagnostic ultrasound
104. Multiple oval opacities found in an elderly patient. Located on the lumbar spine, femur and pelvis probably indicate:
b) prostatic metastasis
105. An apical infiltrate with rib destruction in a patient with brachial radiculitis suggests:
d) Pancoast tumor
106. Emphysema is not characterized by which:
c) air bronchogram sign (pathognomonic for pneumonia)
107. The foramen ovale is visible on which view:
d) basilar
108. On a PA chest film, the left ventricle is in contact to which portion of the lung:
c) lingula
109. Who is responsible for establishing a radiation safety program for diagnostic X-ray:
d) the registered owner of X-ray equipment
110. In which region of the heart are fat pads visualized:
d) costophrenic angle
- Which view exposes the gonads to the greatest amount of radiation:
b) AP lumbar
2. Which fracture is characterized by more than two honey fragments:
a) comminuted
3. What is the effect of increased FF0:
a) decreased patient exposure

Xray

4. Which occurs most commonly in the subarticular portion of a long bone:
d) Giant cell, tumor
5. The minimum total filtration required for equipment operating at 70 RVP or greater is ___ mm of Aluminum:
e) 2.5
6. A 5mm retropharyngeal soft tissue interspace at the level of C2C3 on a neutral lateral of an adult indicates:
a) normal
b) permissible dose
8. A small, faint, slightly curved soft tissue calcification found at the upper border of the medial femoral condyle:
a) Pellegrini Stieda's Dose
9. If the barrier, 10 ft from the source of radiation is moved 5 ft closer to the source, what is the relative amount of radiation received:
b) 4x as much (inverse square law)
10. Café Au Lait spots, sexual precocity and polycystic ovarian fibrous dysplasia are characteristics of:
d) Albright's disease
11. Calcification of the A. L. L. along 4 consecutive cervical segments indicates:
a) DISH
12. Carcinoma of the pancreas most commonly affects:
a) the head
13. What is the major source of secondary radiation:
b) patient's body
14. The string sign seen on barium studies indicates:
c) Regional enteritis (Chron's disease)
15. What results from a smaller effective focal spot:
d) sharper radiographic image
16. Small rounded or flask shaped outpocketing of the colic mucosa seen on barium studies indicate:
b) diverticulosis
17. The useful XRs of a diagnostic range have energy and wavelengths:
a) high/short
18. Radiographic visibility of calcification in the wall of the gallbladder is:
a) Lloyd's porcelain gallbladder sign
19. The primary disadvantage of rare earth screens is:
d) increased distortion
20. Multiple round opacities in the gluteal area with sclerotic margins indicate:
a) calcification from previous injection sites.
21. The restriction of the primary beam is the function of the:
a) collimator,
22. Plate like rectal ectasis is most likely seen in a PA and lateral chest view in which location:
h) lower lobes
23. Factor that controls the penetrating power of XRs is:
b) kilovoltage
24. Vertical calcification anterior to the body on a lateral lumbar view indicates:
a) arterial sclerosis of the abdominal aorta
25. In the adult, coxa vara is diagnosed when the femoral angle is:
b) less than 120 degrees
26. Stress studies of the AC joint shows the difference between the right and left AC space greater than 9mm indicates an injured shoulder:
h) sprain
27. Which is not an etiology for an ADI of 5mm in an adult:
e) DJI)
28. Chest XRs of a 29 year old male with marked recent weight loss shows mediastinal widening and pulmonary infiltration which radiates to the lung fields of the hilar region:
b) Hodgkin's
29. Erosive osteoarthritis affects which joint predominantly:
-) distal interphalangeal
30. The gravitational line on a lateral projection of a normal lumbar spine lies in which location:
a) anterior 1/3 of the sacral base (Ferguson's)

Xray

31. Condition which is characterized by bone which is decreased in quantity and normal quality is:
 - d) senile osteoporosis
32. A 1mm stair stepping on a flexion view of the cervical spine indicates:
 - a) normal finding, (2mm or > =lig laxity)
33. Psoriatic arthritis most commonly affects which peripheral areas:
 - b) hands and feet.
34. A Lovett reverse typically accompanies:
 - d) discal hypoplasia
35. improper film fixing causes:
 - a) residue on the film
36. Pleural effusion is often first noted on a PA chest in which location:
 - b) costophrenic angle
37. A section of XE film exposed too light prior to processing will appear following developing:
 - a) black
38. Presence of an air bronchogram sign indicates lesion:
 - h) parenchymal
39. The fxn of developing solution is to:
 - d) reduce silver halides
40. Left. ventricular hypertrophy and tortuosity is seen in:
 - c) HTN
41. When static electrical charges are on an XE it will possess which artifacts:
 - d) branching black
42. Which is characterized by numerous patchy opacities which have no central consolidations in the lower, lobes of a febrile pt:
 - active TB
43. In which period of pregnancy is the fetus most sensitive to Xray:
 - d) first few weeks
44. A soft tissue mass in the paraspinal region which displaces the psoas muscle shadow and contains calcified deposits is indicative of:
 - cold abscess
45. The primary origin of lytic bone metastasis in females is most commonly in breast or:
 - c) lung
46. Transverse laxity is best evaluated radiographically by which view:
 - a) flex/ext
47. 58 yo male with solitary densely sclerotic and slightly enlarged deformity of a segment.. Alk phos is increased:
 - Paget's
48. A round, oval or diamond shaped piece of bone at the most cephalad part of the dens may appear under 12 years is most likely:
 - d) os terminale
49. On a neutral lat cerv Xray intersecting lines are drawn tangent to the post, aspects of C2 and C7 vert. bodies. The point of intersection is the. The method is the
 - c) Ruth Jackson stress lines.
50. Which develops due to full body radiation:
 - d) Leukemia
51. Pathognomonic finding for primary hyperparathyroidism is:
 - b) hand
52. A lateral skull XR demonstrates which sinuses located ant and inf to the sella turcica:
 - d) sphenoid
53. Calcification of multiple IVDS is found in:

Xray

- c) ochronosis
- 54. Which view is standardly taken at 72 FF1):
 - a) lateral cervical
- 55. Unilateral spondylolysis is accompanied by:
 - c) contralateral pedicle sclerosis
- 56. Hadely's S curve indicates the presence of:
 - e) vert subluxation
- 57. The grid protects from radiation:
 - c) film/scatter
- 58. Eisenstein's measurement of < 10mm in adult lumbar spine is indicative of:
 - b) spinal stenosis
- 59. The fxn of mAS is to regulate:
 - d) density
- 60. What assists in the dx of slipped femoral capital epiphysis:
 - d) Kline's line
- 61. A thin crescent. shaped artifact on an XP I s most. likely due to:
 - b) creasing the film before processing
- 62. Increased object film distance results in decreased:
 - h) detail
- 6,1 . The normal ADI I ri an adult is
3mm
- 64. Radiographic definition refers to the:
 - cI sharpness of image
- 65. A Boeh].er's angle of less than 25% most indicates:
 - c) calcaneal fx
- 66. Automatic film processing is more rapid than manual due to the use of:
 - dl increased temp
- 67. The sagittal diameter of the spinal canal is measured on lat view or surface of the vert body to the spinal laminae line:
 - I lvoatl
- 68. The .IVF of the Tspine is best seen on without tube tilt:
 - a) neutral lat view
- 69. The most. likely dx for a pt with narrowed interosseous disc space, osteophytosis, subchondrat sclerosis of facet and endplate sclerosis is:
 - a) discogenic 4rthrosis
- 70. Oblique views of what area at 55 degrees pt position
lumbar
- 71. Osseous neoplasm is most. likely to occur Mw 5 and 20 yo is:
 - c) Ewing's sarcoma
- 72. Charnherl in's line is used to determine:
 - d) Basilar invagination
- 73. A horizontal radiolucent cleft in the midpor ion of a I at thoracic protraction is:
 - d) Hahn's fissure
- 74. Chronic dislocation of the shoulder most commonly accompanies which:
 - d) Hilisack's defect
- 75. The degree of spondy] oil sthesis is determined on which view:
 - b) lateral.
- 76. Which radiographic feature of a bone lesion indicates a benign process:
 - a) narrow zone of transition
- 77. Which disc space is most poorly demonstrated on an lAt' lumbar:
 - d) 155
- 78. The spinal region most commonly assoc with compression fx in geriatric pts is:
 - b) thoracic
- 79. Lesion for preexisting cause for metacarpal fx:
 - exrnchondroma

Xray

80. Distortion due to magnification can be decreased by reducing the:
- a) OFD (object film distance)
81. A small segment of the chronic subchondral e pole at the lat margin of the medial femoral condyle is indicative of:
- osteochondritis desiccans
82. What contributes to increased radiographic definition:
- long FFD
83. Degenerative spondylolisthesis is most common at which level:
- L4, L5
84. A radiograph is produced using an 8:1 grid. A 16:1 grid replaces the 8:1 grid. What would maintain the same density:
- increase mAs
85. An example of inherent filtration is:
- tube housing
86. Which tumor is either sessile or pedunculated and may potentially degenerate to chondrosarcoma:
- osteochondroma
87. Which improves the quality of a lumbosacral spot film with insufficient, overall density:
- d) increase the mAs by double.
88. Penumbra can be elicited by increasing the:
- d) OFD*
89. The initial radiographic feature of peri-arthritis is:
- a) soft tissue swelling
90. Lower extremity position for an AP pelvic view:
- a) isn't rotated.
91. Separation of a syndesmosis is known as a:
- c) diastasis
92. A V-shaped or shaped lucency located centrally in the ilium is probably:
- b) vascular growth
93. Intravenous urography is contraindicated for patients with:
- e) iodine sensitivity
94. Recommended source to image distance for a PA chest is:
- b) 72 inches
95. Exam of injured long bones should always include:
- a) joint nearest to injury
96. Which sesamoid bone is located in the lateral head of the gastroc:
- d) osfabell
97. The rationale for including a PA chest as part of a rib series is to:
- d) detect free air in the pleural cavity,
98. Multiple punctate calcifications which are distributed across the midline of an AP abdomen:
- c) pancreatic calculi
99. Which view of the lumbar spine best demonstrates the lumbar IVFs:
- d) lateral lumbosacral spot
100. The sagittal diameter of the spinal canal is most usually determined by which condition:
- a) stenosis
101. Which technique is most effective in early detection of metastasis to bone:
- b) radionuclide bone scan
102. Which special XR. uses metrizamide:
- b) myelography
104. A decrease in intensity of an XR beam as it advances its atoms is called:
- HI braking
105. A compensatory direct sign of atelectasis is: r ,

Xray

- a) fissure displacement
106. Air fluid levels are seen in which pt position:
a) upright
2. The best Xli to view the lunate is
A. AP wrist
- Which film is taken with the arm raised
B> at chest
4. Purpose of ' the q;rid is
C. reduce scatter to the film
5. Most common type of scatter radiat ion
a. Gompton
- h . He red tory nm] i tple esotos I s can Lead t a hr:cinn t use
B> DJD
7. Nonunion of the base of the odontoid calm appear as a
B Mach line
8. LB 50/30 means
B> 50% of animals exposed will die with a dose of 30 rads
- 9, A harrier is moved form 10 feet to 5 feet from source of film. TO obtain same density of Ii Lm
H. decrease MAS by 1/4
10. Host radio] ucent. to most radopaque is
A. air/fat/water/bone
11. What, Js the disadvantage of a small focal spot
C inadequate heat displacement
12. The function of the intesnify jug' screens is to
B. convert energy of AR beam into visible light
- 13 The larger the crystals in an intensifying' screen wi .1
A. decrease sharpness
- 14 . What is the function of the developer
- reduces the exposed silver halide to metallic SilVV'
15. Ideal time for manual processing' is
A. 68 degrees for 5 mm
16. Order thru which ci ec t eons in an XP mach i ne rave
B. rectifier/cathode/anode
17. The converter to change 0l_ic 50 l tage I o a H I g'ier vo l l a se i eve] i s,
B. step up transformer
18. Which is an effect of increased FFD
B> decrease distortion
19. Best. protection to filter out XR is which substance
B> lead
20. Which technique uses a longer scale of contrast
D> 400 MA, 1/4 sec, 90 KVP
- 21 . An increase in thee MA of at least 30 % will
C. increase density.
22. What. will happen if the safe light is too bright.
C'. fog on film
23. A crcse ls}iaed crcas€ o nthe Cl On w due to
B. film was folded
- 25 , Jefferson fractiire won id be seen on which view
B> APOM
26. Loeer thoracic lvi's are best seen on which vic
B lateral thoracic
27. The cervical pedicies are best seen on
B. oblique cervical

Xray

29. The 10 day rule applies to
 - you may. Xr a female within the last 10 days following the onset on menses
30. Most common cause of spondylolisthesis
 - traumatic
- 31 . Martins basilar angle is used to measure
 - B. platybasia
32. AR reveals SI joint obliteration, bamboo spine and marginal syndesmophytes is
 - C. AS
33. Which disease can cause ivory white vertebra
 - B. blast mets, Hodgkins, Pagets
34. Osteoporosis from trauma is
 - sudecks atrophy
- 35 Calcification of the ALI, in at least 4 segments in the cervical spine is called
 - DISH
- 36 . Psoas displacement , pain and + mycobacterium indicates
 - . cold abcess
37. dead hone removed from an infection is called
 - . sequestrum
35. Fracture of the radius with anterior displacement is a
 - . smith
39. An elongated L5 spinous is termed
 - . knife clasp
40. If you see a horizontal cleft deformity on a a dorsal vertebra it is termed a
 - . Hahns fissure
- 41 . Cobb Lippman is the best line to measure
 - scoliosis
42. McNabb's line utilizes
 - B. superior facet of the vertebra below
43. Best view to evaluate the sacrum
 - A. AP with tube tilt 15 degrees cephalad
44. When taking a lateral lumbopelvic, where would the cross hairs be aligned
 - L/S junction
45. Which sign is seen when there is a. unilateral spondylolisthesis
 - opposite pedicle is calcified
46. Best view to see sella turcica
 - lateral skull
17. Which is malignant
 - osteosarcoma
42. Pest view to see intercondylar eminence
 - tunnel
49. Metrazamide is used for
 - myelography
50. The Y and X on the ischium or on the crest of the ilium is due to a
 - C. epiphysis is not closed
51. At what. age do you see ossification of the crest of the ilium
 - A> 18 years,
- 52, How can you determine the progression of scoliosis
 - A. 1 degree per month is rapid.
53. Which is least likely to be seen in the mediastinum
 - 0. sarcoidosis
54. A large non-calcified differentiated nodule in he chest is probably
 - C, bronchogenic carcinoma
- 55, Best way to diagnose metastatic disease
 - A. nuclear bone scan

Xray

56. There is calcification which is parallel and found in left upper quadrant. This is
- 0. splenic artery calcification
- What causes a mediastinal shift toward the anterior
- A. pneumothorax
52. Most traction spurs are seen in
- C. lumbar.
59. Slipped epiphysis is most common I ii
- A, proximal femur
60. What would describe thinning of bone cortex and loss of bone density
- B, osteoporosis
- .GI. If lumbar canal measures 10 mm it indicates
- B. spinal canal stenosis,
22. A retropharyngeal space of 5 mm indicates
- U. normal.
63. Why is cervical oblique taken at 72"?
- A. decrease distortion
- 64 . loose bodies in the joint space are seen in
- C. osteochondritis dissecans
65. Which does not, cause upper cervical laxity of the transverse ligament,
- B. DJD'
66. Phleboliths in the pelvic area are
- U> not clinically significant
267. There is calcification of renal ureter junction with
- P. kidney infection
68. Which structure .1 s not visible on KUB
- B. pancreas