STUDENT REVIEW

QUESTION SET E

RANDOM CONTENT AREA

RADT 2913

COMPREHENSIVE REVIEW
What unit of measure is used to indicates electrical current?
A. Volt
B. Ohm
C. Watt
D. Ampere
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B. Ohm
C. Watt
D. **Ampere**
A non-contrast media supine abdomen is obtained using all three AEC sensing chambers, 400 mA, 75 kV, 40 inches SID, and a 400 speed imaging system. If the resulting image is underexposed, the most probable cause would be that the:

A. backup time was set too short
B. milliamperage was set too low
C. density selection was set on +2
D. exposure time was limited by the minimum response time of the unit
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What should a radiographer do to reduce the occurrence of postural hypotension?
A. Keep patient's head lower than feet
B. Keep patient's head higher than feet
C. Sit patient up slowly from a recumbent position
D. Stand patient up quickly from a recumbent position
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What term describes the monitoring and measuring of a person's exposure to radiation?

A. ALARA
B. dosimetry
C. densitometry
D. sensitometry
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B. dosimetry
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What bony structure serves as a landmark for the ASIS?

A. L3  
B. L4-L5  
C. S1-S2  
D. S5
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A. L3
B. L4-L5
C. S1-S2
D. S5
The specific component in the x-ray circuit that allows for the regulation of kilovoltage is the
A. autotransformer
B. step-up transformer
C. low-tension transformer
D. high-tension transformer
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A. autotransformer
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What organ manufactures bile?

A. liver
B. spleen
C. pancreas
D. gallbladder
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A. liver
B. spleen
C. pancreas
D. gallbladder
An AP shoulder projection is obtained using the AEC center chamber, 400 mA, 70 kV, -1 density, and 40 inches SID with the collimator set slightly smaller than a 10 by 12 inch image receptor. If the image is underexposed, the best correction factor would be to

A. increase collimation
B. increase kilovoltage
C. increase milliamperage
D. use a side chamber instead of the center chamber
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A. increase collimation
B. increase kilovoltage - penetration
C. increase milliamperage - exposure
D. use a side chamber instead of the center chamber
The BUN and creatinine levels in a patient's blood will provide an indication of what physiologic function?

A. Liver function
B. Renal function
C. Coagulation factor
D. Pulmonary function
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A. Liver function  
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What type of gain is describes increased image brightness due to accelerated electrons traveling across to the output phosphor?
A. flux
B. brightness
C. minification
D. electrostatic
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A. flux
B. brightness
C. minification
D. electrostatic
What cranial projection demonstrates the dorsum sella projected through the foramen magnum?

A. AP axial
B. submentovertical (full basal)
C. verticosubmental (full basal)
D. PA with 25° caudal tube angle
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A. **AP axial**
B. submentovertical (full basal)
C. verticosubmental (full basal)
D. PA with 25° caudal tube angle
Which of these does not influence magnification?

A. SID
B. OID
C. SOD
D. focal-spot size
Which of these does **not** influence magnification?

A. SID
B. OID
C. SOD
D. **focal-spot size**
How should a 14 by 17 inch image receptor be aligned when performing a scoliosis survey studies?

A. Crosswise with bottom at level of iliac crest
B. Crosswise with top at level of xiphoid
C. Lengthwise with top at suprasternal notch
D. Lengthwise with bottom 1 inch below iliac crest
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D. **Lengthwise with bottom 1 inch below iliac crest**
What units of measurement does the term volt indicate?

1. Electromotive force
2. Potential difference
3. Number of electrons flowing per second

A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2, and 3
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Which facial bone is not paired?

A. mandible
B. maxilla
C. palatine
D. inferior nasal concha
Which facial bone is not paired?

A. mandible
B. maxilla
C. palatine
D. inferior nasal concha
Grid ratio is defined as:

A. The ratio of the lead strips to the space between them
B. The thickness of the lead strips divided by the thickness of the aluminum interspaces
C. The ratio of the height of the lead strips over the distance between the lead strips
D. The ratio of the distance between the lead strips over the height of the lead strips
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A. The ratio of the lead strips to the space between them

B. The thickness of the lead strips divided by the thickness of the aluminum interspaces

C. The ratio of the height of the lead strips over the distance between the lead strips

D. the ratio of the distance between the lead strips over the height of the lead strips
When putting on sterile gloves, what part of the glove, if any, may be touched by the ungloved hand?

A. The inside surface of the glove
B. The palmar surface of the glove
C. Under the folded cuff of the glove
D. No part of the glove may be touched
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A. The inside surface of the glove
B. The palmar surface of the glove
C. Under the folded cuff of the glove
D. No part of the glove may be touched
An optimally calibrated AEC should be able to automatically

A. select the minimum back-up time

B. adjust the exposure time for the part thickness

C. adjust the kilovoltage for the part being imaged

D. select the appropriate combination of sensor chambers
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A. select the minimum back-up time
B. **adjust the exposure time for the part thickness**
C. adjust the kilovoltage for the part being imaged
D. select the appropriate combination of sensor chambers
The positioning instructions for the parieto-orbital oblique projection of the optic canal requires the
A. central ray to be angled 12° cephalic
B. IOML to be perpendicular to the image receptor
C. side of interest to be furthest from the image receptor
D. midsagittal plane to form a 53° angle with the image receptor
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What is the medial bone in the lower leg?
A. tibia
B. talus
C. fibula
D. femur
What is the medial bone in the lower leg?

A. tibia
B. talus
C. fibula
D. femur
All the following are located in the operating control (control console) side of the x-ray circuit EXCEPT:

A. timer
B. x-ray tube
C. kVp selector
D. autotransformer
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What radiographic examination should be performed first if the patient has a cervical spine injury?

A. Supine chest radiograph
B. Supine AP cervical spine, including C1-7
C. Lateral projection of cervical spine with horizontal x-ray beam
D. Erect lateral of cervical spine with weights to depress shoulders
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What structure is formed by the union of the posterior aspect of the body and anterior aspect of the vertebral arch?

A. Spinous process  
B. Transverse process  
C. Vertebral foramen  
D. Intervertebral foramen
What structure is formed by the union of the posterior aspect of the body and anterior aspect of the vertebral arch?
A. Spinous process
B. Transverse process
C. Vertebral foramen
D. Intervertebral foramen
What medical intervention should be applied if a patient has a contrast media reaction involving dizziness, nausea, and vomiting?

A. Instruct patient to breathe into a paper bag
B. Reassure patient, observe for other changes
C. Call physician for administration of medications
D. Call for immediate emergency assistance (i.e., code blue)
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A. Instruct patient to breathe into a paper bag
B. **Reassure patient, observe for other changes**
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D. Call for immediate emergency assistance (i.e., code blue)
Which of the following may be used as personnel radiation monitoring devices?

A. TLD, film badges, ion chambers
B. Scintillation crystals, TLD, film badges
C. Film badges, ion chambers, scintillation crystals
D. Ion chambers, thermoluminescent dosimeter (TLD), Geiger-Müller (G-M) counter
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B. Scintillation crystals, TLD, film badges
C. Film badges, ion chambers, scintillation crystals
D. Ion chambers, thermoluminescent dosimeter (TLD), Geiger-Müller (G-M) counter
What is the most appropriate type of contrast medium for angiography of any blood vessel?

A. Air
B. Iodized oils
C. Barium sulfate
D. Water-soluble iodine
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A. Air
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What is the relationship between linear energy transfer (LET) and relative biologic effectiveness (RBE)?

A. Direct
B. Indirect
C. Inverse
D. No relationship
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A. Direct
B. Indirect
C. Inverse
D. No relationship
The most superior portion of the sternum is termed the
A. body
B. xiphoid
C. manubrium
D. jugular notch
The most superior portion of the sternum is termed the
A. body
B. xiphoid
C. manubrium
D. **jugular notch**
Which choice are examples of artifacts caused by the automatic processor?
A. Static and increased density
B. Crescent marks and chemical stain
C. Pi lines and guide shoe scratches
D. Agitation bubbles and chemical fog
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A. Static and increased density
B. Crescent marks and chemical stain
C. Pi lines and guide shoe scratches
D. Agitation bubbles and chemical fog
What is the tube passing from the kidney to the urinary bladder?
A. ureter
B. uterus
C. urethra
D. urinary duct
What is the tube passing from the kidney to the urinary bladder?

A. ureter
B. uterus
C. urethra
D. urinary duct
What is the maximum allowed monthly radiation exposure dose for the pregnant technologist?

A. 0.05 rem (0.5 mSv)
B. 0.1 rem (1 mSv)
C. 0.5 rem (5 mSv)
D. 5 rem (50 mSv)
What is the maximum allowed monthly radiation exposure dose for the pregnant technologist?

A. 0.05 rem (0.5 mSv)
B. 0.1 rem (1 mSv)
C. 0.5 rem (5 mSv)
D. 5 rem (50 mSv)
What structure is demonstrated if a supine patient is rotated 25° to 30° toward the left and the central ray is perpendicular and enters one inch medial to the right ASIS?

A. L5-S1  
B. Sacral tubercles  
C. Right sacroiliac joints  
D. Right lumbar zygapophyseal joints
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B. Sacral tubercles
C. **Right sacroiliac joints**
D. Right lumbar zygapophyseal joints
Storage conditions for radiographic film require temperatures:

A. greater than 70°F and about 60% humidity
B. less than 50°F and about 40% humidity
C. less than 70°F and about 60% percent humidity
D. greater than 50°F and about 40% percent humidity
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A. greater than 70°F and about 60% humidity
B. less than 50°F and about 40% humidity
C. less than 70°F and about 60% percent humidity
D. greater than 50°F and about 40% percent humidity
What is the active component of the thermoluminiscenct dosimetry (TLD)?
A. Lithium fluoride
B. Cesium iodide
C. Xenon gas
D. Sodium iodide
What is the active component of the thermoluminiscent dosimetry (TLD)?

A. Lithium fluoride
B. Cesium iodide
C. Xenon gas
D. Sodium iodide
A bolus injection of intravenous contrast media is administered:
A. Rapidly in a single dose
B. By the drip infusion method
C. Rapidly in quarters of the total dose
D. Slowly over a specified period of time
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A. **Rapidly in a single dose**
B. By the drip infusion method
C. Rapidly in quarters of the total dose
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In digital radiography, spatial resolution is improved with increased:

A. field of view
B. Hounsfield units
C. pixel size
D. matrix size
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A. field of view
B. Hounsfield units
C. pixel size
D. matrix size
When should the Heimlich maneuver be employed?

A. the victim has an obstructed airway
B. the victim has no pulse or breathing
C. the victim has a pulse but is not breathing
D. responsiveness in the victim must be established
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A. the victim has an obstructed airway
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C. the victim has a pulse but is not breathing
D. responsiveness in the victim must be established
Where is the mastoid process located?

A. Frontal bone
B. Occipital bone
C. Temporal bone
D. Sphenoid bone
Where is the mastoid process located?

A. Frontal bone  
B. Occipital bone  
C. **Temporal bone**  
D. Sphenoid bone
Which radiation type will have the highest LET?
A. 80-keV x-rays
B. 5-MeV x-rays
C. Gamma rays
D. Fast neutrons
Which radiation type will have the highest LET?
A. 80-keV x-rays
B. 5-MeV x-rays
C. Gamma rays
D. **Fast neutrons**
A "do not resuscitate" (DNR) order or other request for minimal medical treatment may be made via:
A. the patient through a living will
B. the medical and nursing staff
C. any health care team member
D. the family members of a competent patient
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A. **the patient through a living will**
B. the medical and nursing staff
C. any health care team member
D. the family members of a competent patient
What may be the cause for an underexposed radiograph of a lateral L5-S1 joint using the AEC?

A. Minimum reaction time
B. Plus density was selected
C. Center chamber was positioned over the spine
D. Center chamber was positioned posterior to L5-S1
What may be the cause for an underexposed radiograph of a lateral L5-S1 joint using the AEC?

A. Minimum reaction time  
B. Plus density was selected  
C. Center chamber was positioned over the spine  
D. **Center chamber was positioned posterior to L5-S1**
What is the largest bone in the lower extremity?
A. tibia
B. fibula
C. femur
D. calcaneus
What is the largest bone in the lower extremity?

A. tibia
B. fibula
C. femur
D. calcaneus
When possible, what is the best way to move a heavy object?
A. Lift
B. Pull
C. Push
D. Drag
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A. Lift
B. Pull
C. Push
D. Drag
What is detected by making a radiograph of a wire mesh test device?
A. Artifacts
B. Fogged film
C. Poor film-screen contact
D. Loss of imaging system speed
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A. Artifacts
B. Fogged film
C. Poor film-screen contact
D. Loss of imaging system speed
What oblique patient position should be used when imaging the right anterior ribs?

A. Left posterior oblique (LPO)
B. Left anterior oblique (LAO)
C. Right anterior oblique (RAO)
D. Right posterior oblique (RPO)
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A. Left posterior oblique (LPO)
B. Left anterior oblique (LAO)
C. Right anterior oblique (RAO)
D. Right posterior oblique (RPO)
Which changes in technical factors is MOST similar to doubling the mAs?
A. increase kVp by 15%
B. increase kVp by 50%
C. decrease SID 15%
D. decrease SID 50%
Which changes in technical factors is MOST similar to doubling the mAs?

A. increase kVp by 15%
B. increase kVp by 50%
C. decrease SID 15%
D. decrease SID 50%
In which position is the coronoid process visualized in profile?

A. AP scapula
B. Axial olecranon process
C. Medial oblique elbow
D. Lateral oblique elbow
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A. AP scapula  
B. Axial olecranon process  
C. Medial oblique elbow  
D. Lateral oblique elbow

Coracoid process is on scapula.  
Coronoid process is on the proximal anterior ulna.
What factors contribute to radiation having a low linear energy transfer (LET)?

1. High energy
2. No mass
3. High penetration

A. 1 and 2 only
B. 1 and 3 only
C. 2 and 3 only
D. 1, 2, and 3
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1. High energy
2. No mass
3. High penetration

A. 1 and 2 only
B. 1 and 3 only
C. 2 and 3 only
D. 1, 2, and 3
Before initiating chest compressions, a rescuer should check for the absence of a pulse for
A. 2 to 5 seconds
B. 5 to 10 seconds
C. 10 to 20 seconds
D. 20 to 30 seconds
Before initiating chest compressions, a rescuer should check for the absence of a pulse for
A. 2 to 5 seconds
B. 5 to 10 seconds
C. 10 to 20 seconds
D. 20 to 30 seconds
What radiation exposes the image receptor?
A. Primary radiation
B. Scattered radiation
C. Secondary radiation
D. Exit (remnant) radiation
What radiation exposes the image receptor?

A. Primary radiation  
B. Scattered radiation  
C. Secondary radiation  
D. **Exit (remnant) radiation**
Choose a job you love, and you won't have to work a day in your life.

Confucius