

STRATEGIES FOR WRITING CAMRT MRT EXAMINATION PRACTICAL APPLICATION ACTIVITY - ASSIGNMENT

Please complete both sections of this assignment within the Word document and email to the instructor when completed.

- Using the attached table, refer to the multiple choice items in the left column and provide your responses in the right column. Indicate the best answer for each of the ten questions and the concepts required and the thought process to determine the response that you have selected. To demonstrate the requirements for this question, an example has been provided for item 1.

Item	Best answer / Concepts required and thought process
1. The technical factors for an inferosuperior projection of a patella are 100 mA, 0.06 sec, 55 kV at 100 cm SID. To maintain the same intensity, what adjustment to the exposure time is required if the SID is changed to 115 cm? 0.03 seconds 0.04 seconds 0.08 seconds 0.10 seconds	Best answer: 3 Concepts required and thought process: - Knowledge of Inverse Square Law and Formula $\frac{I_1}{I_2} = \frac{D_2^2}{D_1^2}$ - Recognition that time contributes to the intensity or total exposure of the beam - Adjustment of formula, so that the time is calculated, as other exposure factors are unchanged - Use the variation of the exposure maintenance formula $\frac{S_1}{S_2} = \frac{D_1^2}{D_2^2} \quad .06 = \frac{100^2}{115^2}$ $13225 \times .06 = 10000x$ $x = \frac{793.5}{10000}$ $x = .079 \text{ seconds or } .08 \text{ secs}$
Case Study – Refer to the Questions 2 - 4 for the Case Study	
Scenario Mrs. Johnson is scheduled for a double contrast barium enema examination which will be performed using a digital fluoroscopic unit. The technologist will complete the required overhead images with a CR system, using a stationary grid for the decubitus views, after the radiologist has performed the fluoroscopic part of the examination.	
2. Mrs. Johnson is lying on her left side. What adjustment in this position is required to insert the enema tip? - True lateral with legs flexed at the knees and hips - True lateral with the right knee flexed in front of left leg - Straighten both legs and roll forward 15° - Roll forward with the right knee flexed in front of left knee	Best answer: Concepts required and thought process:

3. During the fluoroscopic portion of the double contrast barium enema, the radiologist complains of the quality of the image on the fluoro monitor, indicating it is very noisy. What should the technologist do? 1. Adjust the brightness on the monitor 2. Decrease the contrast on the monitor 3. Increase the fluoro mA 4. Reduce the OID	Best answer: Concepts required and thought process:
4. When reviewing both decubitus images, the technologist notices that the second image performed, the left lateral decubitus view, has a mottled appearance. What is the reason for the mottled appearance, given that all technical factors remained the same for both decubitus views? 1. The central ray was off center to the grid for the right lateral decubitus 2. The grid and imaging plate were tilted for the left lateral decubitus 3. The mAs was reduced for the left lateral decubitus 4. The mAs was increased for the right lateral decubitus	Best answer: Concepts required and thought process:
End of Case Study	
5. When performing a bone age study on an 8 month old, what anatomical area is imaged because of the rapid development in the ossification center during the first year of life? 1. Ankle and Foot 2. Foot 3. Hand and Wrist 4. Knee	Best answer: Concepts required and thought process:
6. At the insistence of her family, Mrs. Davide, a very ill, frail patient is transported on a stretcher to the Radiology department for an acute abdominal series. Upon arrival in the radiographic room, she refuses to have the procedure done. What is the best course of action for the technologist to take? 1. Advocate for Mrs. Davide, as she has the right to refuse the procedure 2. Advocate for the ordering physician, as he is honoring the family's request 3. Persuade Mrs. Davide of the benefits of proceeding with the examination 4. Proceed with the Doctor's orders, given the patient's condition	Best answer: Concepts required and thought process:
7. Mrs. Kosick, 27 years old, has arrived for a lumber spine series as part of a one year post surgical	Best answer: Concepts required and thought

follow up. During discussion, she shares that she may be pregnant. What is the technologist's best course of action? 1. Advise Mrs. Kosick to reschedule after she has confirmed that she is not pregnant 2. Order a pregnancy test and wait for the results before starting the case 3. Reduce the number of views required and proceed with the examination 4. Request that Mrs. Kosick sign an informed consent before proceeding	process:
8. What technical parameter will enhance tissue differentiation to improve subject contrast during an exposure? 1. Decreased kV 2. Decreased SID 3. Increased filtration 4. Increased mAs	Best answer: Concepts required and thought process:
9. During a CT brain, what is the effect on the brightness if the window width is adjusted to 200 and the window level is set at +50? 1. CT numbers between 50 and 200 appear black 2. CT numbers between +150 and -50 appear as gray levels 3. CT numbers greater than +200 appear black 4. CT numbers less than -50 appear white	Best answer: Concepts required and thought process:
10. What post processing technique will minimize the motion artifacts observed on a series of DSA images? 1. Edge enhancement 2. Energy subtraction 3. Mask re-registration 4. Roadmapping	Best answer: Concepts required and thought process:
11. During an erect abdominal view, Mr. O'Neal develops epistaxis. To provide proper care, what position should he be placed in? 1. Recovery with nostrils pinched 2. Sitting with head forward 3. Supine with head extended back 4. Trendelenburg	Best answer: Concepts required and thought process:

2. Identify which strategies for exam preparation and actually writing the exam were new learning as a result of the readings in this course. If you did not learn any new strategies, what strategies do you intend to use as you prepare and write the CAMRT? Develop a study plan using the strategies that you have selected. Include your study plan in the response to this question.