

**READING HOSPITAL SCHOOL OF HEALTH SCIENCES  
MEDICAL IMAGING PROGRAM  
CROSS SECTIONAL ANATOMY--- 2021**

*This study guide is to be completed and submitted to the MI262 associated assignment drop box by 9/8/21 10:00AM*

*\*\*Please click on the box next to each question to insert your answer.*

**Ultrasound & Nuclear Medicine**

1. This portion of a radiopharmaceutical/isotope is specific to the organ system.
2. What is the number designated to each kind of tissue/density in Ultrasound Imaging?
3. What is the difference of purpose between the Nuclear Medicine study Myocardial Perfusion and Multi-Gated Acquisition study?
4. What are the frequency ranges of Ultrasound that are most utilized?
5. What are the indications for a Breast Ultrasound?
6. When a lesion is present during an Ultrasound and it appears to have many echoes and is bright in relation to the surrounding tissues, what would it be classified as?
7. This modality uses radioactive isotopes for imaging the function and various organ systems of the body.
8. What is the purpose of a Nuclear Medicine Ventilation/Perfusion Scan?
9. When a lesion is present during an Ultrasound and it appears to have few echoes and is darker in relation to the surrounding tissues, what would it be classified as?
10. What is the function of the gel during an Ultrasound?
11. What are the benefits of Ultrasound?

12. Explain how the Gamma Camera of Nuclear Medicine differs from an x-ray tube.  
(What is its function?)
13. List the various items used in Nuclear Medicine that aid in ALARA.
14. Explain how sound waves are created for Ultrasound.
15. Transducers in Ultrasound have what 2 functions?
16. What are the methods of Nuclear radiopharmaceutical/isotope administration?
17. What is the purpose of a Nuclear Medicine Hepatobiliary Scan?
18. The attenuation factor of Ultrasound determines what 3 things?
19. Why is it advantageous to combine PET and CT for Nuclear Medicine Studies?
20. Ultrasound uses what kind of sound waves to create images of organs and other systems in the body?
21. What is the purpose of a Nuclear Medicine Bone Scan?
22. When a lesion is present during an Ultrasound and it appears to have no echoes and is black in relation to the surrounding tissues, what would it be classified as?
23. What are the benefits of having a Nuclear Medicine scan performed?
24. Identify the different transducers in Ultrasonography and what each would be used for.
25. Why is SPECT Nuclear Medicine Imaging advantageous over regular Nuclear Medicine imaging?

26. This portion of a radiopharmaceutical/isotope is specific producing the image.
27. What are the indications of a Doppler Ultrasound?
28. What are the indications for the Nuclear Medicine study: Brain SPECT?
29. What substance in Ultrasound converts electricity into sound waves and then echoes into electricity?
30. List various reasons a Pregnancy Ultrasound would be performed.
31. In Nuclear Medicine, when comparing a Gastric Emptying vs. GI Bleeding scan what is the difference in the purpose behind the scans?
32. What imaging planes are Ultrasound images obtained?
33. Why are Hip Ultrasounds performed on infants?
34. What are the indications for a Transvaginal Ultrasound?
35. What are the indications for a Testicular Ultrasound?
36. Why are Cranial Ultrasounds performed on neonates?
37. What are the indications for a Carotid Ultrasound?