

Test Questions

(hint: print questions & mark answers before starting online test)

1. The MR scanners are associated with _____ and require precautions.
(A): ionizing radiation
(B): radionuclides
(C): magnetic fields
(D): soundwaves
2. The MRI safety education training and participation should be repeated _____ in imaging departments.
(A): bi-weekly
(B): monthly
(C): quarterly
(D): annually
3. All Non-MR Personnel needing to enter Zone III **must** first pass an MR safety screening process.
(A): True
(B): False
4. A careful screening needs to be done for _____ prior to entering Zone IV for safety.
(A): ferromagnetic materials
(B): contrast injection
(C): surgeries
(D): intravenous catheters
5. Which of the following type of patient **must** be transported into the MR scanner using an MR Conditional wheelchair or stretcher?
(A): hospitalized
(B): higher-risk
(C): non-ambulatory
(D): all of the above
6. For unconscious or unresponsive patients, who should complete a written MR safety screening questionnaire prior to MRI exam?
(A): MRI technologist
(B): Family members or guardians
(C): Physician
(D): Radiology nurse
7. The use of _____ is recommended as an adjunct to thorough and conscientious screening of persons and devices prior to being permitted into Zone IV.
(A): X-ray screening
(B): visual screening
(C): ferromagnetic detection systems (FMDS)
(D): none of the above
8. Which of the following device is prevented from passing the 5-G line unless specifically cleared in writing by a Level 2 MR Physician?
(A): cardiac and diaphragmatic pacemakers
(B): implantable cardioverter defibrillators (ICDs)
(C): medication pumps and cochlear implants
(D): all of the above
9. Which of the following should be obtained if it is unclear whether a patient has an implanted intracranial aneurysm clip?
(A): plain x-ray films
(B): cranial ultrasound
(C): EEG
(D): a contrast study
10. Cardiac implantable electronic devices (CIEDs) were first introduced in _____.
(A): 1900
(B): 1958
(C): 1999
(D): 2000

11. The vast majority of data today has failed to show that exposure to MR has damaging effects on the developing fetus during pregnancy.
(A): True
(B): False
12. Which of the following MR contrast should not be routinely administered to pregnant patients?
(A): Barium sulfate
(B): Microbubbles
(C): Gadolinium-based contrast agents (GBCAs)
(D): Iodine
13. Which of the following is the largest group of patients that requires sedation for MRI exams?
(A): Children
(B): Teenagers
(C): Elderly
(D): Pregnant
14. FDA-approved MR GBCAs are administered via _____ as a bolus or slow or continuous injection.
(A): oral routes
(B): peripheral IV routes
(C): intramuscular routes
(D): rectal routes
15. Which of the following devices need to be positively identified in writing as MR Unsafe or MR Conditional?
(A): fire extinguishers
(B): oxygen tanks
(C): patient gowns
(D): both A and B
16. If a device has not been tested, or if its MR safety status is unknown, it **should not** be permitted unrestricted access into _____.
(A): Zone I
(B): Patient waiting room
(C): Zone III
(D): none of the above
17. If grossly detectable ferromagnetic properties are observed, it should be labeled with a _____ label.
(A): circular red MR unsafe
(B): fire hazard
(C): personal protection
(D): radiation area
18. The square green MR Safe label is for _____ objects taken into Zone IV.
(A): nonmetallic/nonconducting
(B): flammable
(C): ferromagnetic
(D): radionuclide
19. The magnetic fields associated with the MR scanner are _____.
(A): heterogeneous
(B): 3-dimensional
(C): 2Ds
(D): sinusoidal
20. Which of the following area is considered as a safety Zone I?
(A): MRI scanner room
(B): Post-screened patient area
(C): Outpatient entrance
(D): Patient changing and gowning area
21. Only _____ should be provided free access through access keys or passkeys, to Zone III.
(A): General public
(B): MR Personnel
(C): Pharmaceutical reps
(D): Patients' family

22. The MR scanner room is located in Zone _____.
(A): I
(B): II
(C): III
(D): IV
23. The entrance to Zone IV should be clearly marked with a prominently displayed red illuminated sign stating _____.
(A): The Magnet is Always On or The Magnet is On
(B): Imaging in Progress
(C): Radiation Area
(D): Do Not Enter
24. All conventional fire extinguishers and other firefighting equipment not tested and verified as safe in the MR environment should be restricted from Zone III.
(A): True
(B): False
25. Leaked _____ appear as white "clouds" or "fog" around or above the MR scanner.
(A): Ionizing radiation
(B): Oxygen
(C): Cryogenic gases
(D): Ammonia
26. Which of the following MR scanner produces greater transmitted RF energy?
(A): 1.5 T
(B): 2 T
(C): 3 T
(D): 7 T
27. _____ states that a changing magnetic field will induce a voltage and subsequent current in a perpendicularly oriented electrical conductor.
(A): Newton's Law
(B): Faraday's Law
(C): Inverse Square Law
(D): Atom Theory
28. Hearing protection for the patient is required because MRI systems are capable of producing sound pressures that exceed _____ dB(A).
(A): 10
(B): 57
(C): 70
(D): 99
29. Which of the following factor can alter patient's thermoregulatory response to a heat load during MR exams?
(A): Medications
(B): Fever
(C): Obesity
(D): All of the above
30. _____ should be placed between the patient's skin and any transmit RF coil to prevent burns.
(A): Pads
(B): Lead shielding
(C): Ice cubes
(D): Sandbags
31. Which of the following can produce heat if placed near the body coil during MR exam?
(A): Patient gowns
(B): Deodorant
(C): Tattoos
(D): Body lotion
32. Who assumes overall and ultimate responsibility for MR facility operational safety?
(A): Patient
(B): Radiology nurse
(C): MRMD
(D): Radiographer

33. Which of the following MR Safe appliance should be provided by the facility to the patient if needed?
(A): Wheelchairs
(B): Walkers
(C): Portable oxygen
(D): All of the above
34. The loss of superconductivity or magnetic field of a MR scanner is called _____.
(A): blackout
(B): quenche
(C): static
(D): artifacts
35. An assessment of cryogen vent system needs to be done at least _____ for safety.
(A): weekly
(B): bi-weekly
(C): quarterly
(D): annually
36. The MRI equipment can be very sensitive to which of the following factor?
(A): vibration
(B): power supply fluctuation
(C): water damage
(D): All of the above