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## POSTTEST QUESTIONS

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*Mail or Fax*

- Please indicate your answers on the **ANSWER SECTION** of the Posttest Answer Form & Evaluation page.
- Please be sure to sign the attestation statement on the Answer Form. Credit will not be granted without your signature.
- Mail or fax your completed Answer Form to the ICPME address indicated on the form.
- A certificate will be issued within 30 days of receipt of a passing grade.

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| <p>1. <b>The missile effect is one of the more critical safety issues related to the ____ field of the MR system.</b></p> <ol style="list-style-type: none"> <li>gradient magnetic</li> <li>static magnetic</li> <li>radiofrequency</li> <li>vector</li> </ol> <p>2. <b>Which of the following is an effect associated with the gradient magnetic field?</b></p> <ol style="list-style-type: none"> <li>acoustic noise</li> <li>missile effect</li> <li>whole body and localized heating</li> <li>magnetization</li> </ol> <p>3. <b>Which of the following medications may alter a patient's thermoregulatory response to the RF field?</b></p> <ol style="list-style-type: none"> <li>aspirin</li> <li>nicotine</li> <li>beta-blockers</li> <li>steroids</li> </ol> <p>4. <b>According to the new MR terminology for labeling of implants, the term MR Safe is defined as an item ____.</b></p> <ol style="list-style-type: none"> <li>known to pose hazards in all MRI environments</li> <li>known to contain ferromagnetic properties</li> <li>that does not form a closed loop</li> <li>that poses no known hazards in all MRI environments.<br/>Nonconducting, nonmagnetic, nonmetallic materials<br/>(plastic, glass, silicone)</li> </ol> <p>5. <b>Silicone may be classified as a material that is ____.</b></p> <ol style="list-style-type: none"> <li>MR Unsafe</li> <li>MR Safe</li> <li>MR Conditional</li> <li>MR Conditional 2</li> </ol> | <p>6. <b>Which of the following describes the screening procedure recommended in this lecture?</b></p> <ol style="list-style-type: none"> <li>verbal screening interview and information review with patient</li> <li>written screening form and verbal screening interview</li> <li>written screening form, verbal screening interview, and verification of information</li> <li>written screening form and metal detector scan</li> </ol> <p>7. <b>Localized or whole body tissue heating is the primary safety concern related to the ____ field?</b></p> <ol style="list-style-type: none"> <li>radiofrequency (RF)</li> <li>gradient magnetic</li> <li>static magnetic</li> <li>biomagnetic</li> </ol> <p>8. <b>According to FDA documents, which ONE of the following measurements is a safe specific absorption rate (SAR) level during clinical MR procedures?</b></p> <ol style="list-style-type: none"> <li>5 W/kg averaged over the whole body during a 15 minute period</li> <li>10 W/kg averaged in any ONE gram of tissue involving the head or torso during a 5 minute period</li> <li>8 W/kg averaged in any ONE gram of tissue of the extremities during a 5 minute period</li> <li>4 W/kg averaged over the whole body during a 15 minute period</li> </ol> <p>9. <b>For pediatric patients below the age of one month, the maximum acceptable field strength is ____ tesla.</b></p> <ol style="list-style-type: none"> <li>4.5</li> <li>4.0</li> <li>3.0</li> <li>1.5</li> </ol> |
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## POSTTEST QUESTIONS (continued)

Please indicate your answers on the ANSWER SECTION of the Posttest Answer Form.

- 10. Which of the following does NOT present an increased risk for patients undergoing MRI procedures?**
- neurostimulation systems
  - transdermal medication patches
  - nonferromagnetic oxygen tank
  - EKG leads
- 11. The presence of which of the following could prevent a patient from undergoing MRI?**
- a tattoo
  - permanent cosmetics
  - an aneurysm clip made from ferromagnetic stainless steel
  - an aneurysm clip made from titanium
- 12. Which of the following could prevent a patient from undergoing an MRI exam?**
- the Resolution Clip™
  - a hemostatic clip made from tantalum
  - a hemostatic clip made from nitinol
  - staples made from biodegradable materials
- 13. A patient with \_\_\_\_\_ should be allowed to undergo an MRI exam.**
- the Vibrant Soundbridge hearing device
  - an external hearing device who removes the device prior to the procedure
  - the Soundtec Direct Drive Hearing System
  - an external hearing device
- 14. What was the cause of the deep brain stimulation (DBS) injury shown in this lecture?**
- the exam was performed in a CT scanner
  - the patient had an iron oxide-based tattoo
  - the exam was performed above the indicated field strength
  - the exam was performed below the indicated field strength
- 15. Which of the following is a FALSE statement concerning coils, filters, and stents?**
- there are many different types
  - there is on-going development of coils, filters, and stents
  - ALL coils, filters, and stents have undergone safety testing at 3.0 tesla
  - Movement or displacement is a possible hazard related to these devices
- 16. Which of the following are the correct guidelines for conducting an MRI exam with a deep brain stimulation system?**
- pre- and post-programming required, 1.5 tesla, ONLY, transmit/receive head coil, ONLY, limit RF power (SAR), to 0.1 W/kg in head
  - pre- and post-programming required, up to 3.0 tesla, transmit/receive head coil ONLY, limit RF power (SAR) to 0.1 W/kg in head
  - pre- and post-programming required, up to 1.5 tesla, transmit/receive head coil ONLY, limit RF power (SAR) to 3.0 W/kg in head
  - patients with deep brain stimulation systems should never undergo MRI exams
- 17. Orthopedic implants classified as \_\_\_\_\_ may pose serious hazards to patients undergoing MRI examination.**
- internal fixation systems
  - magnetic fixation devices
  - coils, filters, and stents
  - external fixation systems
- 18. Which of the following is NOT a guideline concerning pregnant patients undergoing an MRI exam?**
- pregnant patients should not undergo MRI under any circumstance
  - use of MRI procedure is acceptable to address a clinically important question
  - use of MRI is acceptable regardless of trimester
  - written/verbal informed consent must be obtained
- 19. Due to its 90-degree deflection angle, the \_\_\_\_\_ device is unsafe for use in the MRI environment.**
- Zodiac® Endovascular Graft
  - Zenith® AAA Endovascular Graft
  - Neutron® AAA Stent Graft
  - Astra® AAA Stent Graft
- 20. Which of the following is NOT a possible problem for patients with cardiac pacemakers?**
- movement of the pulse generator
  - excessive heating
  - functional changes
  - excessive cooling

POSTTEST ANSWER FORM & EVALUATION

Mail or fax the completed form with your signature to:  
International Center for Postgraduate Medical Education  
PO Box 4286 • Ithaca, NY 14852 • Fax: 607-257-5891

Name: \_\_\_\_\_

Medical Institution: \_\_\_\_\_

Phone: (      )                                  Fax: (      )                                  E-mail: \_\_\_\_\_

Mailing Address:  home  work

Street: \_\_\_\_\_ PO Box/Room #: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

ANSWER SECTION Please place your answer in the boxes below:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

EVALUATION

Based on what you have learned in this activity, please rate your confidence level to assess or perform the following:

	Confident	Somewhat Confident	Not Confident
1. Given your current practice setting, identify potentially hazardous equipment that could be inadvertently introduced into your MRI environment and educate non-MRI personnel to prevent accidents or injuries.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. In consideration of the known bioeffects and safety issues related to the MRI environment, develop safe practices using appropriate guidelines and recommendations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Review your patient, individual, and staff MRI safety practices and revise your screening forms and procedures in accordance with current recommendations for MRI examinations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. In a patient or individual with an implant or device, identify potential safety issues and determine if an MRI exam is contraindicated or the conditions under which a safe exam may be performed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rate the faculty for:		<b>Poor</b>	<b>Excellent</b>
5. Content of presentation		1 2 3 4 5	
6. Ability to convey the subject matter clearly		1 2 3 4 5	
7. Comments for faculty: _____			
8. As a result of this lecture did you learn something that was new to you?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
9. Did this program verify some important information?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
10. Do you plan to seek more information on this topic?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
11. Were you expecting to learn something that was not addressed in this program? Comment: _____		<input type="checkbox"/> Yes	<input type="checkbox"/> No
12. Was there a topic or area that should be covered in greater detail? Comment: _____		<input type="checkbox"/> Yes	<input type="checkbox"/> No
13. Did this program meet your expectations?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
14. Do you feel that the program was fair, balanced, and free of commercial bias? If no, please state reasons: _____		<input type="checkbox"/> Yes	<input type="checkbox"/> No
15. Did your reason for participating in this program involve needing to make a change in your current practice?		<input type="checkbox"/> Yes	<input type="checkbox"/> No
16. Please describe any changes you are planning to make as a result of something you learned from this program: _____			

	Low	High
17. On a scale of 1 to 4, how committed are you to making the change(s)?	1 2 3 4	
18. May we follow-up with you within the next 6 months to evaluate how this course has affected your practice?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

ATTESTATION STATEMENT

Please indicate which of the following best describes your professional role. We cannot issue the appropriate credit unless you indicate your status.

- Radiologist     Radiologic Technologist     Other (specify): \_\_\_\_\_  
 Registered Nurse (all states EXCEPT California)     Registered Nurse (State of California ONLY)

I have completed this program in it's entirety. \_\_\_\_\_ Date: \_\_\_\_\_  
(signature is required to receive credit)