

SMRT

SOCIETY FOR MR  
RADIOGRAPHERS & TECHNOLOGISTS  
A Section of the ISMRM

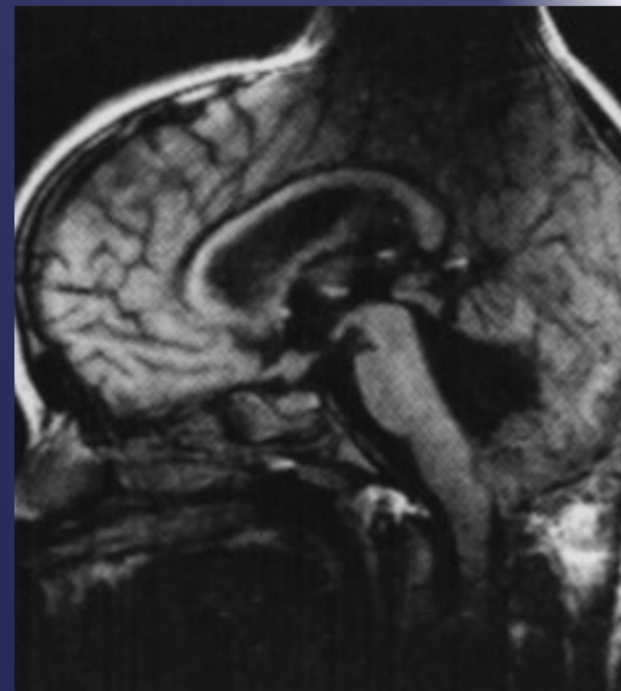
A WORLD  
OF KNOWLEDGE  
FOR MAGNETIC RESONANCE  
PROFESSIONALS

# MRI Safety Week Quiz Question 4

This image artifact was caused by a hair-pin/hair-clip forgotten by a patient when changing for an MRI scan!

**Question: Which of the following options would help avoid a potential MR safety accident?**

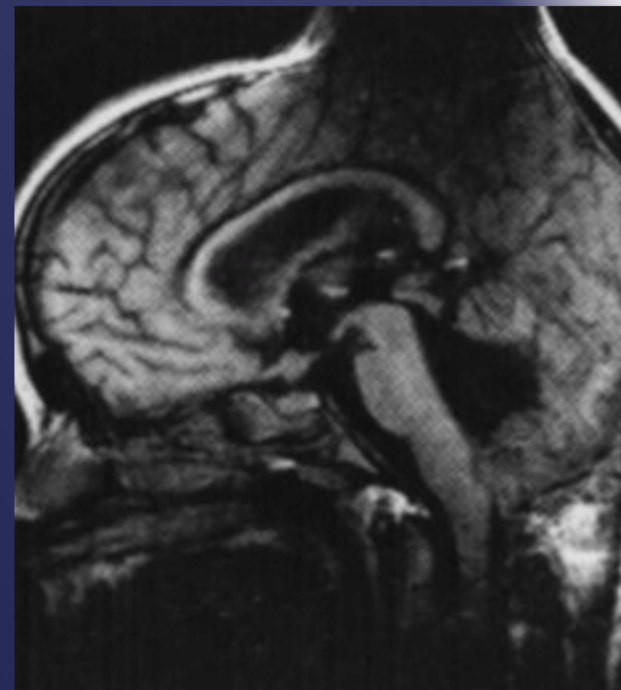
- a) Visually and verbally check that the patient has removed all metallic items from their person before entry to the MRI scanner room (Zone 4)
- b) Use a hand held or inbuilt ferrous metal detection system instead of visual and verbal checks, to prevent metallic items entering the MRI scanner room (Zone 4)
- c) Change the imaging parameters to reduce distortions in the image
- d) Rely solely on the patient's signed MRI safety form for confirmation that they have removed all metallic objects from their person



This image artifact was caused by a hair-pin/hair-clip forgotten by a patient when changing for an MRI scan!

**Question: Which of the following options would help avoid a potential MR safety accident?**

- a) Visually and verbally check that the patient has removed all metallic items from their person before entry to the MRI scanner room (Zone 4)
- b) Use a hand held or inbuilt ferrous metal detection system instead of visual and verbal checks, to prevent metallic items entering the MRI scanner room (Zone 4)
- c) Change the imaging parameters to reduce distortions in the image
- d) Rely solely on the patient's signed MRI safety form for confirmation that they have removed all metallic objects from their person



**Learning points:**

- A ferromagnetic hair-pin presents a risk for both projectile accidents & burns caused by RF heating
- Screen patients carefully and ensure that they have removed all metallic objects from their person before entry to the MRI scanner room (Zone 4)
- Hand held or inbuilt ferrous metal detection systems can help, but never replace, thorough MR screening checks
- Note: Any metal within the imaging area has the potential to cause artifacts that compromise the diagnostic value of the MRI scan
- **Correct Answer: a**

SMRT

SOCIETY FOR MR  
RADIOGRAPHERS & TECHNOLOGISTS  
A Section of the ISMRM

A WORLD  
OF KNOWLEDGE  
FOR MAGNETIC RESONANCE  
PROFESSIONALS

## Acknowledgments

**Contributors: The SMRT Safety Committee (2018)**

*Disclaimer: This program was developed by the SMRT Safety Committee to provide education to promote safety in the MRI environment. The information presented does not replace any MRI guidelines or site specific policies & procedures.*

# MRI Safety Resource List

- **ISMRM & SMRT MR Safety Resources: [www.ismrm.org/mr-safety-links](http://www.ismrm.org/mr-safety-links)**
- ACR White paper on MR Safety (2013)
- IEC MRI Safety Recommendations (2014)
- MHRA Safety Guidelines for MRI Equipment in Clinical Use (2015)
- EU Directives on MR safety (2013)
- RANZCR MRI Safety Guidelines
- [www.fda.gov](http://www.fda.gov): Magnetic Resonance Imaging (MRI Safety)
- [www.mrisafety.com](http://www.mrisafety.com)