

Medical Safety Information

Pharmaceuticals and Medical Devices Agency



No. 25 September 2011

Precautions for Magnetic Resonance Imaging (MRI) Scans (Part 1)

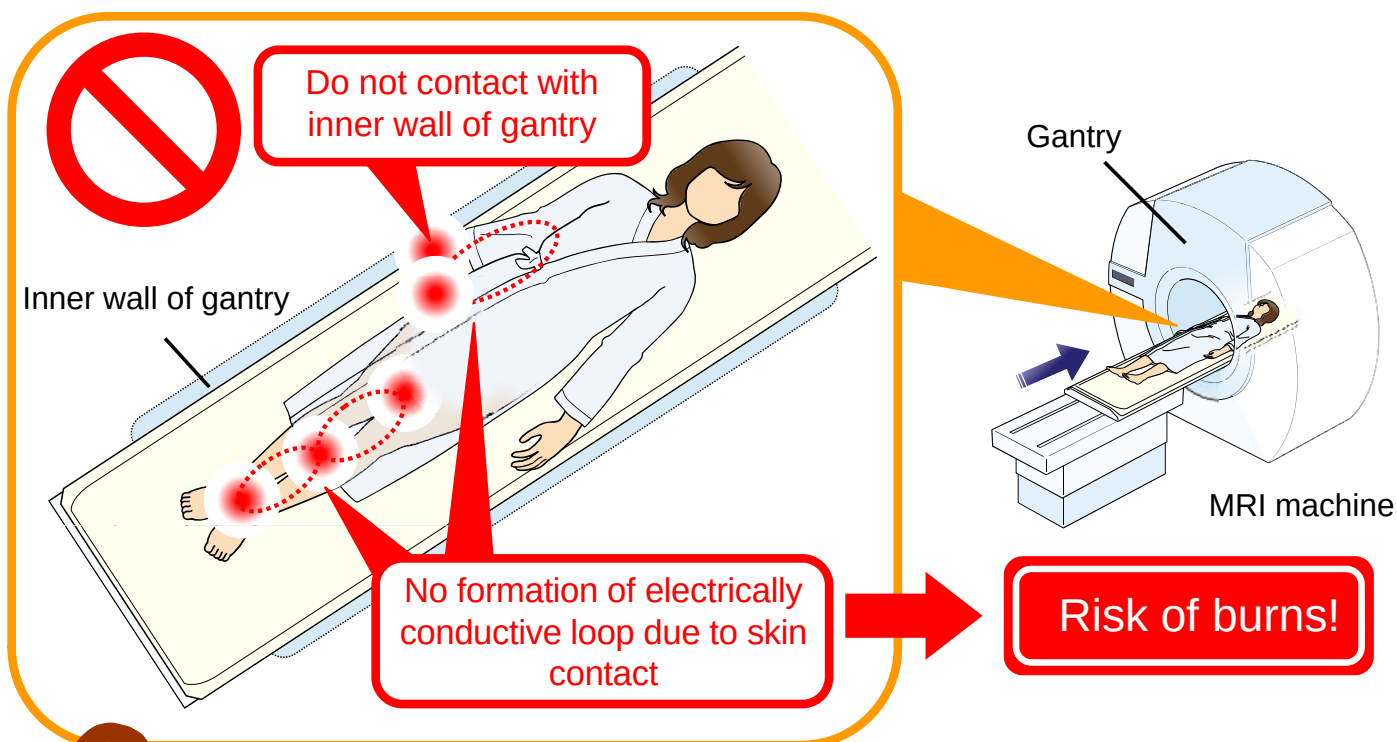
POINT

Key points for safe use

(Case) A patient received a burn (Degree I-II) on the inside of the thigh after having an MRI scan. Contact of the insides of the thighs during the MRI scan may contribute to form an electrically conductive loop.

1 Precautions for burns (Part 1)

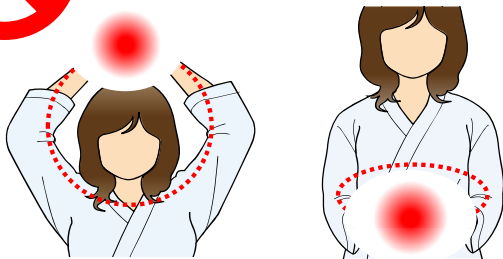
- Make sure that there is no skin contact in patients' arms and legs at positioning.
- Provide patients with clear instructions not to move (change their body position) while being scanned in the MRI machine.



There is a risk of burns at the point of contact due to induced current which is caused by skin contact or contact with the inner wall of the gantry during MRI scans.



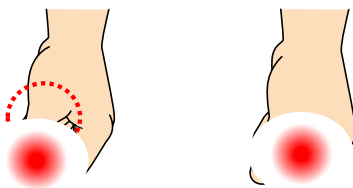
Inappropriate position (1)



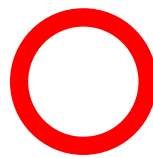
Arms folded



Inappropriate position (2)



Hand clenched



Appropriate position

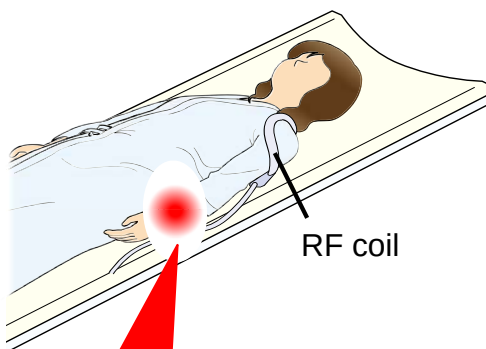


Place body in non-contact with
inner wall of gantry!

Place arms and legs apart
to avoid skin contact!!

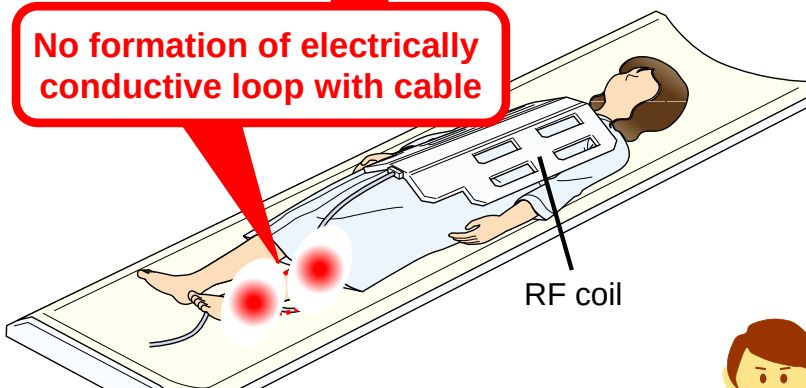
2 Precautions for burns (Part 2)

- Do not put cables/cords of radio frequency (RF) coils and electrocardiogram monitors, etc. in contact with the patients' skin.



RF coil

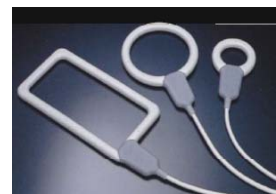
No formation of electrically
conductive loop with cable



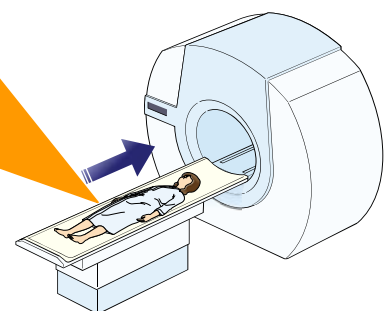
RF coil

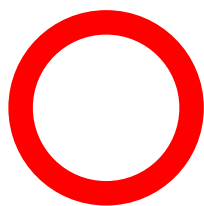
There is a risk of burns or failure of
equipment if cables of RF coils, etc. form
loops.

Examples of RF coils



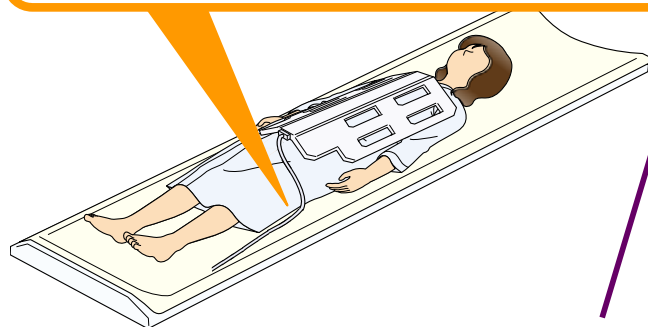
Photos by Japan
Industries Association of
Radiological Systems



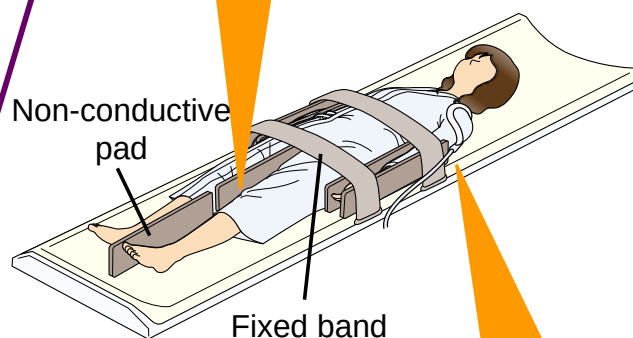


Appropriate position

Skin should not contact with cables.
Loops should not be formed with cables.



Place **non-conductive pads**
or **dry towels, etc.** at sites
with a risk of contact.



Place cables so that they pass
outside of non-conductive pads.

Please use **fixed bands** for patients who have difficulty in
maintaining appropriate position.
Please contact marketing authorization holders of MRI
machines about use of non-conductive pads or fixed bands.



About this information

- * PMDA Medical Safety Information is issued by the Pharmaceuticals and Medical Devices Agency for the purpose of providing healthcare providers with clearer information from the perspective of promoting the safe use of pharmaceuticals and medical devices. The information presented here has been compiled, with the assistance of expert advice, from cases collected as Medical Accident Information Reports by the Japan Council for Quality Health Care, and collected as Adverse Drug Reaction and Malfunction Reports in accordance with the Pharmaceutical Affairs Law.
- * We have tried to ensure the accuracy of this information at the time of its compilation but do not guarantee its accuracy in the future.
- * This information is not intended to impose constraints on the discretion of healthcare professionals or to impose obligations and responsibility on them, but is provided as a support to promote the safe use of pharmaceuticals and medical devices by healthcare professionals.