



York and Scarborough
Teaching Hospitals
NHS Foundation Trust

Potential Complications Following an MRI Scan

Information for patients, relatives and carers

① For more information, please contact:

The MRI Unit

York Hospital
Wigginton Road, York, YO31 8HE
Telephone: 01904 721017

or

Scarborough Hospital
Woodlands Drive, Scarborough, YO12 6QL
Telephone: 01723 368111

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Introduction

The MRI scanners are operated by radiographers who are highly trained in carrying out MRI investigations.

Magnetic Resonance Imaging (MRI) uses strong magnetic fields and radio waves to produce detailed images of the inside of the body.

Energy generated during the MRI process can cause heating of tissues within the body. The heating effects on tissues are reduced by both the scanners' operating systems and the use of protective equipment during your scan. The scanner uses your height and weight to ensure the correct amount of radio wave energy is used to create your scans. To prevent heat build-up the MRI staff will correctly position you in the MRI equipment with padding and cushioning as appropriate.

During your MRI examination it was not possible to employ all the methods intended to reduce the effects of tissue heating when undertaking your scan. This leaflet is intended to highlight the potential complications you should be aware of, how to tell if you may be experiencing the complications and what to do if it happens.

Heating and thermal burns

Most of the radio wave energy that is put into the body during scanning is absorbed by the body in the form of heat. The body then disperses the heat to maintain normal core body temperature. However, on rare occasions heat can build up in the tissues and burns can occur.

Generally, burns occur on the skin surface causing pain, and the reaction to such a sensation is to quickly pull away. However, when burns occur during the MRI scanning process you may not be aware of a burning sensation. This is because, the heating effect is happening in the fatty tissue immediately below the skin where there are no pain sensors. That means it is not possible to feel or see the burn until it has had time to transfer through the deep tissues to the skin surface. This can take up to 24 hours after your scan has been completed.

The information above was explained to you at the time of the MRI examination. In addition, we explained that we would not be able to use all the measures above to prevent thermal burns. For example, we may not have been able to use the correct sponges around you or we may not have been able to weigh you which meant the scanner could not accurately calculate how much radio wave energy to put into your body.

Before we continued with your scan, we explained that we were not able to do everything necessary to help your body to reduce the heating effects from the scanning process. We told you this may result in you sustaining a thermal burn. You confirmed that you understood this may be a potential complication of your scan; however, you still wished to proceed with the scan.

Thermal burn appearances

What must you do if you develop a burn?

Burns can be very painful. The amount of pain you feel is not always related to how serious the burn is.

Up to 24 hours after your scan has been undertaken you may develop one of the following reactions:

- Red or peeling skin
- Swelling
- White or charred skin
- Blister

Keep the burn clean and **do not** burst any blisters that may form. If you need further assistance with treating the burn, please contact your GP surgery.

In all cases, please contact the MRI unit to tell us that a burn has developed on your skin surface.

It is important that we are aware of any injury however minor that has been caused by the MRI examination and we can give further guidance.

York Hospital: 01904 721095

Scarborough Hospital: 01723 385043

We are available between 8am and 7pm (Monday to Friday).

If you are unable to contact the MRI unit and you need medical attention, please seek advice/attention from your GP or your local emergency department.

Tell us what you think of this leaflet.

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:

Julie Caddick, MRI Principal Radiographer,
York Hospital, Wigginton Road, York, YO31 8HE or
telephone 01904 721017.

Jane Cullingworth, MRI Superintendent Radiographer,
Scarborough Hospital, Woodlands Drive, Scarborough
YO12 6QL or telephone 01723 342044.

Teaching, training and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

Patient Advice and Liaison Service (PALS)

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email yhs-tr.patientexperienceteam@nhs.net. An answer phone is available out of hours.

Leaflets in alternative languages or formats

If you would like this information in a different format, including braille or easy read, or translated into a different language, please speak to a member of staff in the ward or department providing your care.

Patient Information Leaflets can be accessed via the Trust's Patient Information Leaflet website:

www.yorkhospitals.nhs.uk/your-visit/patient-information-leaflets/

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