

Contrast Agents in Magnetic Resonance Imaging (MRI) A Patient Guide

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What is a contrast dye?

The use of contrast dyes in medical imaging is extremely common. They are typically used to enhance the appearance of certain structures within the body on scans and provide more information.

This leaflet contains information on gadolinium, which is the key component of the contrast dye used in MRI scans.

If you have any further questions, please speak to the radiographer caring for you. Further information about the medicine may also be found in the manufacturer's patient information leaflet - please ask us if you would like a copy.

What is gadolinium?

Gadolinium contrast dye is a clear and colourless fluid that is used to make images clearer during an MRI scan, aiding the radiologist reviewing your scan in making a diagnosis. The radiologist (the specialist doctor trained in studying diagnostic scans) or a senior radiographer (a specially trained member of the radiology team who performs the MRI scan) will decide whether gadolinium is necessary and will discuss this with you as part of the MRI screening process that will take place at the beginning of your appointment.

How is gadolinium given?

If a contrast dye is necessary, Gadolinium will be injected into a vein in your arm or hand via a cannula (a soft, hollow, plastic tube) during your scan. A needle is used to insert the cannula but once the cannula is in the correct position, the needle is removed. This leaves the plastic tube in the blood vessel. This should not be uncomfortable and will only be in place until your scan is complete.

Are there any side effects from gadolinium?

Gadolinium is not suitable for everyone and your radiographer or radiologist will decide if it is appropriate for you as part of the MRI screening process.

Gadolinium should not be used in patients with impaired kidney function or with certain medical conditions where function of the kidneys and liver is reduced. Please tell the radiographer before your scan if you have any history of kidney problems. You will be asked about your kidney function as part of the MRI screening process.

Gadolinium based contrast agents are associated with a very low rate of adverse effects, such as allergic reaction. Guidelines recently published by the Royal College of Radiologists (Guidance on gadolinium-based contrast agent administration to adult patients, 2019) state that mild adverse events happen in less than 1% of all injections. Serious events are even rarer, occurring in an estimated 0.005% of cases.

Recently, researchers have identified that gadolinium may be retained in the brain after the use of gadolinium-based contrast agents. However, there is no evidence to date that gadolinium retention in the brain from contrast dye is harmful. We are following best practice guidelines by limiting the use of gadolinium to those scans in which additional information is necessary.

When they do happen, adverse events are usually very mild and short lasting and are easily managed in the department. Such events may include discomfort around the injection site, nausea, vomiting, itching, a rash or a headache. Whilst they are very rare, adverse events can occur and we are prepared to manage these events as and when they happen.



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Most reactions occur during the injection, or within the first hour following the injection. We will always make sure that you are feeling your normal self before you leave the department. However, some reactions can occur up to several days later.

If you experience any of the following symptoms once you have left the department, please contact the MRI department where your scan took place (Monday to Friday, 9am to 5pm).

If you have concerns outside of these hours, please contact your GP or go to your local accident and emergency department for advice.

Take this leaflet with you as it contains information about your injection which has been completed by your radiographer.

Please seek advice if you develop any of the following:

Swelling of the face, mouth, hands, feet or throat

Difficulty breathing or swallowing

Fainting

Coughing, wheezing or excessive sneezing

Eye irritation

Rash/hives/itchy red skin

It is important that you tell us if you have ever had a previous allergic reaction to a contrast dye. Again, the radiographer will ask this as part of the MRI screening process.

Occasionally, part of the injection may leak out from the vein to the tissues under the skin. This is known as extravasation and is not something to worry about. If this has happened, you may experience a temporary stinging sensation where the contrast has been injected.

If you experience this, please tell your radiographer who will give you a separate information sheet with some practical guidance on what to do.

Your comments or concerns

If you have any comments or concerns, please get in touch with the MRI department you attended for your scan.

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Chenies Mews Imaging Centre

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If you need this document translated into a different format (e.g. large print), please contact us directly and we will try our best to meet your needs.