



What is a contrast dye?

The use of contrast dye in diagnostic imaging is extremely common. They are typically used to enhance the appearance of certain structures within the body (such as blood vessels) and provide more information from the scan.

This leaflet contains information on the iodine-based contrast agents used for x-ray tests, including Computed Tomography (CT).

If you have any 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 Iodine and how can it help?

Iodine is a naturally occurring chemical element found within the human body. Iodine-based contrast dye is a clear and colourless fluid that is used to differentiate certain areas of the body from surrounding tissues. This helps the radiologist reviewing your scan to diagnose medical conditions.

The radiologist (a specialist doctor trained in studying diagnostic scans) or a senior radiographer (a specially trained member of the radiology team who performs the CT scan) will decide whether contrast dye is necessary. They will discuss this with you as part of the consent process at the beginning of your appointment.

How is the contrast dye given?

Contrast agents can come in many different forms. During CT scans, they can be either injected into a blood vessel or into a fluid space of the spine. Iodine based contrast may also be swallowed.

When an injection is necessary for your scan, the contrast will usually be given through a vein in your arm or hand using a cannula (a soft, hollow, plastic tube). A needle is used to insert the cannula but once it 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 risks associated with contrast?

The use of contrast agents can be helpful in the diagnosis and treatment of many conditions. However, it is important that the benefits of having contrast outweigh the risks associated with its use. Iodine based contrast dye is not suitable for everyone and your radiographer or radiologist will ask you some questions to ensure that it is appropriate for you. We will always follow current published guidance and use contrast agents with the lowest possible associated risks.

Iodine based contrast dye should be used with caution in patients with known hyperthyroidism, impaired kidney function or who may be taking a medication called metformin. Please tell the radiographer before your scan if any of these apply to you.



Are there any side effects?

Iodine based contrast agents are associated with a very low rate of adverse effects.

At the time of the injection, it is usual to experience a warm feeling passing around your body. You may also experience a metallic taste. Both of these effects are temporary and will soon pass.

As with all medicines, contrast agents do have the potential to cause an allergic reaction. These are usually very mild and short lasting and are easily managed in the department. Minor events may include discomfort around the injection site, nausea, vomiting, itching, a rash or a headache.

Moderate reactions happen occasionally and may include diffuse rash, facial swelling, throat tightness or wheezing.

Severe reactions (such as anaphylaxis) are extremely rare but if they occur, we are prepared to manage these events as and when they happen.

It is important that you tell us if you have ever had a previous allergic reaction to a contrast dye.

Extravasation

Extravasation is when a medicine has leaked from the vein into the surrounding tissue. Whilst rare, it can be uncomfortable and lead to damage to the skin if left untreated. If this happens, it is normal to have reddening and swelling of the skin at the injection site and a stinging sensation. This usually wears off after 30 minutes. We will give you an information sheet to take home with you should this occur.

Late Reactions

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. This is usually associated with the milder reactions mentioned earlier.

If you experience any symptoms after you have left the department, please contact us Monday to Friday between 09:00 and 17:00. If you have concerns outside of these hours, please contact NHS 111, your GP or go to your local accident and emergency department for advice.

Problems that are rare, but serious

If patients have normal kidney function, contrast dye rarely causes kidney problems. However, if you have known kidney problems (now or in the past) you should contact us before attending as you may require a blood test.

In people whose kidneys are not working normally and who are given a contrast injection, a temporary kidney injury can occur. This is known as Contrast Induced Acute Kidney Injury (CI-AKI). If this were to happen, the majority of people would not feel any different and the injury would only be apparent on a kidney function blood test. If people do experience symptoms, they would be similar to those of kidney disease, including tiredness, poor appetite, swelling in the feet and around the eyes or dry, itchy skin.



In most cases, kidney function returns to normal after a few days. Very occasionally, the kidney injury may affect your health and medical support may be necessary.

If your kidney function is reduced, we may advise precautions such as extra fluids or avoiding certain medications around the time of your scan, or we may even decide not to use contrast. If you wish to discuss why you need to have contrast or if you have any concerns or questions, please do not hesitate to contact us.

Can I choose not to have contrast?

We want to involve you in all decisions about your care. If you decide to go ahead with your contrast scan, by law we must ask for your consent. Staff will explain the risks, benefits and alternatives beforehand.

If you do not wish to have contrast, this is your choice and you will not be treated any differently. Contrast is given to improve the quality of your scan and give your doctors the best opportunity to make a diagnosis. There may be alternative scan methods and you should discuss these with your doctor.

How should I prepare for a contrast scan?

You should inform us prior to your scan if you have known or suspected hyperthyroidism, hyper-functioning thyroid nodule with or without goitre, or if you are expected to undergo radioisotope scanning of your thyroid.

Please follow any specific guidance we give you regarding eating or drinking, but you should gently increase your intake of fluids starting the day before your scan and continue for another 24 hours after the scan to ensure you are well hydrated.

Please contact us if you take metformin. All other medications can be taken as normal unless you are otherwise advised.

Further information

You can find more information about current guidelines on the Royal College of Radiologists website or on NHS Direct. You can also contact us should you have any further questions.

Your comments or concerns

If you have any comments or concerns, please get in touch.

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