

Interventional Neuro-Radiology Service

Spinal Embolisation

Information for patients



Your doctor has recommended for you to have a Spinal Embolisation. This leaflet will explain what the operation involves, the outcomes and the possible risks.

What is a spinal embolisation?

A series of x-rays known as fluoroscopy and angiography are used to visualise the blood vessels surrounding the spinal cord. This is possible due to the use of x-ray dye known as contrast that fills the vessels. Usually, when attending for an embolisation procedure you have already had diagnostic images for planning. This is typically performed to stop blood flow into a spinal tumour, arteriovenous malformation (AVM) or other spinal abnormalities. This is possible with the use of coils, particles or glue.

How do I prepare?

Before entering the theatre environment, you will be given a hospital gown and asked to remove any artefacts such as jewellery, glasses, dentures etc. as any metal may obscure your x-rays. A cannula will need to be in place to provide you any medication throughout the procedure, this will also be used to administer anaesthetic medicine. You will then be taken to theatre, where a team of radiologists, anaesthetists, nurses and radiographers will be setting up for your procedure. You will be shown where to lay on the x-ray table and be made as comfortable as possible.

How is a spinal embolisation performed?

Consent

Before the procedure, you will need to give informed consent which involves the discussion of potential risks and benefits of the procedure. This time also gives you the opportunity to ask questions and further discuss any concerns.

Anaesthetic

You will be under general anaesthetic (GA) for this procedure as it can be very painful and can take a number of hours. It is also vital to remain completely still at the time of embolisation which can be very difficult when awake. Prior to entering theatre your Anaesthetist will explain the process, benefits and risks of GA. This will give you the opportunity to discuss any concerns you may have. Please disclose if you have any allergies or previous reactions to GA.

Operation

Once you are safely under GA, you will be draped with sterile towels, allowing the scrub nurse to clean your groin appropriately. The radiologist will then insert the catheter (long plastic tube). This allows the radiologist to inject x-ray dye into your vessels using x-ray to produce a series of images. The Radiologist will navigate to the area of interest for treatment/ embolisation. This can include the use of coils, particles or glue to stop blood flow into the spinal abnormality. Once your angiogram is complete, all catheters and wires are removed from the vessel and the Radiologist will insert a closure device or apply manual pressure for 5-10 minutes on the groin to ensure there is no bleeding or bruising.

Staff Involved

Interventional Radiology (IR) procedures are performed by a multidisciplinary team. The team includes the following key Staff:

- **Interventional Radiologist (Consultant/Fellow):** A doctor specially trained in minimally invasive, image-guided techniques who performs the procedure.
- **Radiology Nurses:** Highly trained nurses who care for the patient before, during, and after the procedure. They assist with sedation, monitor vital signs (heart rate, breathing, oxygen levels), and may “scrub in” to assist the radiologist directly.
- **Radiographers:** Experts in imaging equipment who operate the machines to provide real-time guidance for the doctor.
- **Senior Clinical Support Workers (SCSWs):** Assist with the setup of the room, patient positioning, and maintenance of sterile conditions.

What are the risks?

- It can be quite common (1 in 100) to experience headaches and other neurological symptoms such as limb weakness and loss of vision post procedure, these symptoms usually subside after a few hours. In some cases, patients can be left with a permanent disability (1 in 200).
- Infection risk at site of puncture. Symptoms of this include this area becoming red, hot, swollen or painful. This may be treated with antibiotics.
- Bleeding at the site of the puncture is another risk post procedure. This can be prevented by applying pressure at the site of closure, lying flat (try not to lift your head as this puts strain on your groin and can also cause bleeding), you will be observed for 4-6 hours post procedure.
- Foot pain and numbness are very rare but may occur due to damage/blockage of the artery in the groin. This would require emergency treatment to return normal blood flow back to the leg.
- Spinal stroke- small risk of paraplegia (the inability to voluntarily move the lower parts of the body), loss of bowel and urinary function.
- Small risk of haemothorax (blood collects in your pleural space). The symptoms of haemothorax may include chest pain and difficulty breathing)
- Retroperitoneal hematoma, or bleeding behind the abdominal cavity
- Allergic reaction to contrast dye (mild symptoms like nausea, itchiness and rashes occur in 3%; moderate to severe symptoms such as severe vomiting, bronchospasm occur in less than 1%; risk of death is rare, estimated at 1:170,000)

- X-rays will be used to make images of your body and guide your doctor during the procedure. X-rays are a type of radiation. We are all exposed to low levels of natural radiation as part of our everyday lives and medical x-rays give an extra dose of radiation. Radiation can increase your chances of developing cancer many years or decades after the exposure. The chances of this happening to you as a result of this procedure are considered to be low.
- In some very rare situations, you might experience some hair loss or some reddening of the skin in the area that was treated. If this happens, you should contact your clinical team who will be able to give some advice on the simple steps you can take to look after your skin.
- It is important to remember that your doctor thinks that the benefits of this procedure outweigh any risks from the radiation. We will make sure that the amount of radiation used in your procedure is as low as possible.

What else to expect from this operation?

Admission

On the morning of your procedure, you will be asked to attend the admissions ward. Where you will be seen by the anaesthetist and neuro vascular nurse specialist, the nurse admitting you to the hospital will ask you some questions including any medications you take and any past medical history. You will normally be asked to stay in hospital for at least one night following your procedure so you can be closely monitored. You will usually be admitted to one of the neurosurgical wards either L24 or L25. Some patients may require admission to a high dependency ward, your doctor will inform you if this is necessary prior to your treatment. There may be a little wait while a ward bed is confirmed prior to you being transferred to Radiology Theatres where you will have your procedure.

Recovery

After the procedure you will be taken to the Post Anaesthetic Care Unit (PACU) to recover from your general anaesthetic. Once deemed stable you will be transferred to a specialist ward to be observed (blood pressure, pulse rate and regular checks of your puncture site). You will be on strict bed rest for 4 to 6 hours, with 1 hour completely flat to reduce the risk of bleeding (if you need to go to the toilet during this period, a bed pan can be used on request). Your recovery depends on your underlying condition and success of your procedure. But you can typically expect 6-8 weeks rest at home after your embolisation.

Aftercare

You will be observed on a specific ward post procedure, if you feel unwell or have any questions, please contact a member of staff who can help. You can eat and drink as normal (usually after one hour of lying flat) unless told otherwise by ward staff.

Care at home

If this was a planned procedure you are likely to return home the next day if your observations are normal. However, if this was an emergency/acute embolisation you may remain in hospital for a prolonged period of time to monitor you more closely.

- It can be common to see bruising at the puncture site, however if this area feels raised or painful, please call the department or attend your nearest A&E if you feel unwell, dizzy or any bleeding occurs.
- **Exercise:** It is advisable that you rest for the first 24 – 48 hours after your procedure and avoid going up and down stairs too frequently and do not carry out any heavy lifting, you should not do any strenuous exercise during this time.
- **Work:** You can resume normal activities such as work after 24 hours.
- **Driving/travel:** You will not be allowed to drive yourself home after your procedure, therefore please make arrangements. It is also advised to have someone with you for the first 24 hours at home in case any symptoms occur.
- **Medicines:** The radiologist will advise you when to restart any medication that was stopped for the procedure, as well as the specialist nurse on the day case ward before going home.
- **Follow-up:** The radiologist or spinal surgeon may arrange follow-up imaging to ensure resolution of the spinal arteriovenous fistula (an abnormal connection of vessels in the tissues around the brain or spinal cord) or the underlying tumour.

Contact information

We hope some of your questions have been answered by this leaflet. If there are any questions you would like to ask before you come for your operation, please get in touch.

Via telephone:

Interventional Radiology LGI: 0113 392 3311

(Monday - Friday from 9am until 5pm, except Bank Holidays)

Ward 24 LGI: 0113 392 7424 (Out-of-hours)

Ward 25 LGI: 0113 392 7425 (Out-of hours)

Neuro Nurse Specialists: 0113 392 5666 or 0113 392 3148
(Monday - Friday from 9am-4pm, except Bank Holidays)

Your GP or NHS direct on 111 (routine) | 999 (emergency)

Or via email: leedsth-tr.radiologyenquirieslgi@nhs.net

How to get to our department

We are located in the **Jubilee Wing of LGI, Ground Floor.**

Check this link to see how to get to us:



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