NHS
The Leeds Teaching Hospitals
NHS Trust

Interventional Neuro-Radiology Service

Cerebral Venous Stent

Information for patients

Leeds Radiology

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

What is a cerebral venous stent?

Venous sinus stenting is a procedure during which a stent (small tube of wire mesh) is inserted into a narrowed area of the vein that drains blood away from the brain, these are known as venous sinuses. This allows blood to flow through the veins more easily resulting in a decrease in pressure inside the head.

How do I prepare?

You may be asked to take an antiplatelet (blood thinning) medication to prevent a clot forming within the stent. You will be advised by your doctor in clinic prior to treatment if this is required and clear instructions including drug, dosage and duration will be discussed with you. Some patients will be required to take two different antiplatelets this is called dual antiplatelet therapy. It may be required you take antiplatelets for at least 3 months after your procedure.

How is it performed?

Consent

The operating neuro-interventional radiologist will explain this operation to you in more detail and answer any of your questions to your satisfaction before you provide your permission and sign your consent form.

Anaesthetic

Your procedure will be done under a general anaesthetic this is where you are asleep. You will be required to fast (not have anything to eat or drink). You should not have anything to eat after midnight on the evening before your procedure, you can have clear fluids up until two hours before your procedure. It is preferential for you to have 250mls of clear fluid two hours prior to your anaesthetic, this helps to prevent dehydration, agitation and post operative complications.

Operation

When you are asleep, you will be positioned on your back with an x-ray machine above you. The radiologist will gain access to your blood vessels through the vein in your groin (femoral). This will be done by making a small incision in the skin and passing a needle in to the blood vessel through which a wire will be introduced to guide the sheath into the place (small thin tube similar to a cannula) through this the radiologist will pass a thin catheter and wire into your blood vessels and navigate through your body and into the blood vessels in your brain. X-rays will be used to help the radiologist guide the catheter and wire into the narrowed blood vessel. A special x-ray die (contrast) will be used to make the blood vessels visible on x-ray. A micro catheter will then be inserted into the vein allowing a stent to be inserted through. This will then be expanded to hold open the blood vessel. A small balloon may be used to fully open the stent to the size of the blood vessel.

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?

All these risks need to be carefully considered when deciding upon a course of treatment and will be discussed with you by your doctor during your clinic appointment.

- Complications as a result of the anaesthetic
- Damage to the kidneys as a result of the x-ray dye
- Injection of air into the blood vessels
- Very small risk of bleeding from the veins inside the head resulting in a surgical operation to relieve the pressure
- Very small risk of neurological disability including weakness in the arms and legs, loss of vision and difficulty speaking

- Very small risk that the stent could become blocked resulting in a stroke and/or bleeding inside the head
- 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.

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. You will be seen by the Neuro Interventional Radiologist responsible for doing your procedure once you arrive in Radiology Theatres. At this point you will be given a chance to ask any further questions and asked to sign a consent form.

Recovery

Once your procedure is completed the anaesthetist will wake you up whilst you are still in Radiology Theatres. You will be transferred to the recovery area in main theatres once it is safe to do so. Regular neurological examinations will be carried out to ensure you have not experienced any complications. This will involve asking you simple questions, testing the strength of your arms and legs and shining a light into your eyes. Your blood pressure, heart rate and oxygen levels will also be monitored. The nurse will check the small wound in your groin for any bleeding. Once you are fully awake after your anaesthetic you will be transferred to a bed on the neurosurgical ward where the nursing team will continue to monitor you.

Aftercare

You will be required to lie flat for 30 minutes immediately after your procedure followed by a further 30 minutes of sitting bed rest before it is safe for you to start walking. You may have a small dressing in your groin at the access site. Some people may have a headache on the side near to where the stent has been placed. This usually settles on 7 its own within a few weeks and can be managed through

taking regular pain medications at home such as paracetamol. Occasionally people may suffer from hearing loss and dizziness on one side but this usually improves and completely disappears quickly.

Care at home

- **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 put 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.
- 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.
- **Follow-up**: You will usually be seen in a follow up appointment with your neurologist or the specialist neurovascular nurse. You might also require further follow up scans.

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 3148** or **0113 392 5666**

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

Or via email:

leedsth-tr.radiologytheatresenquiries@nhs.net

How to get to our department

We are Radiology Theatres and we're located in LGI Jubilee Wing, B Floor.

Follow this link to see how to get to us:

www.accessable.co.uk/leeds-teaching-hospitals-nhs-trust/leeds-general-infirmary/access-guides/jubilee-wing

What did you think of your care?

Visit: www.leedsth.nhs.uk/patients/support/feedback-complaints/friends-family-test/

Scan or click the QR code - Your views matter

Developed by: Sarah Fraser, Specialist Peri-operative Practitioner;
Approved by: Dr. Fathallah Islim, Interventional Neuro Radiologist
Produced by: Medical Illustration Services • MID code: M20251120_010/BW

LN006131
Publication date 04/2025
Review date 04/2028