



Radiology department

Superior vena cava stent

Introduction

This leaflet tells you about the procedure known as superior vena cava (SVC) stent insertion. It explains what is involved and what the benefits and risks are. It may help you think of things you would like to discuss with your doctor.

What is an SVC stent?

An SVC stent is a wire mesh tube about 6 to 10cm (3 to 4 inches) long. The stent is placed in the vena cava. This is the large vein in the chest which brings blood back to the heart from the head and arms. The stent keeps the vein open and restores the blood flow.

Why do I need a SVC stent?

You have a narrowing or blockage of the SVC which is reducing the return of blood to your heart. This is either caused by a tumour pressing on the vein, a clot inside the vein or scarring after treatment. You may have other symptoms of SVC obstruction such as swelling of the face and arms, redness of the face, headaches, difficulties in breathing or swallowing and ringing in the ears.

Who has made the decision?

Your doctors and the radiologist inserting the SVC stent will have discussed the situation, and feel this is the best treatment option.

What to tell the doctor

- If you have any allergies.
- If you have had a previous reaction to intravenous contrast medium (the dye used for some x-rays and CT scanning).
- It is important to tell the doctor or the radiology department **before attending for admission** if you are taking medication to prevent blood clots. Below is a list of some of the medications which are used to thin the blood and help to prevent blood clots.

If you are currently taking any of these medications, please contact your referring doctor or the radiology department on 0161 446 3325 as soon as possible, as these may need to be stopped prior to your procedure. Failure to do so may result in your procedure being postponed.

Apixaban	Dalteparin
Aspirin	Enoxaparin
Clexane	Fragmin
Clopidogrel	Rivaroxaban
Dabigatran	Warfarin

Is there any preparation for my stent?

- You may need to have your blood tested a few days before, or on the day of the procedure. This is just to check that it is safe to go ahead.
- Please do not have anything to eat for six hours before the insertion of the stent as you may need sedation. You can drink water up to two hours before the procedure.
- The radiologist will explain the procedure and any possible risks to you and ask you to sign a consent form.

Agreeing to treatment

We will ask you to sign a consent form agreeing to accept the treatment that you are being offered. The basis of the agreement is that you have had The Christie's written description of the proposed treatment and that you have been given an opportunity to discuss any concerns. You are entitled to request a second opinion from another doctor who specialises in treating this cancer. You can ask your own consultant or your GP to refer you. Your consent may be withdrawn at any time before or during this treatment. Should you decide to withdraw your consent then a member of your treating team will discuss the possible consequences with you.

Who will insert the SVC stent?

The radiologist (specialist doctor) will insert the stent. Radiologists have special expertise in using x-ray equipment, and also in interpreting the images produced. They need to look at these images while carrying out the procedure.

Where will the procedure take place?

In the dedicated procedure room in the radiology department 34 (x-ray department),

Will I need to be admitted into hospital?

You need to be an inpatient in the hospital. We will ask you not to eat for six hours beforehand, though you can drink clear water up to two hours before the procedure. You may have an injection of a painkiller and a sedative to make you more relaxed. We will ask you to put on a hospital gown. As the procedure is generally carried out using the big vein in your right groin, we will also ask you to shave this area. Alternatively we could insert an SVC stent into the large vein in your neck.

You **must** let your doctor know if you have:

- any allergies or
- a previous reaction to intravenous contrast medium (the dye used for kidney x-rays and CT scanning).

What actually happens during the insertion of an SVC stent?

- On arrival at the radiology department you will have the opportunity to discuss the procedure with the radiologist.
- The radiologist will explain all the benefits and possible risks associated with this procedure and we will ask you to sign the consent form.
- You will lie on the x-ray table, generally flat on your back. You will already have a needle in the vein in your arm, so that we can give you a sedative or painkillers if needed. You will also have monitoring devices attached to you, and have oxygen through small tubes in your nose.

- The radiologist needs to keep everything as sterile as possible and will wear theatre gown and gloves. The skin around the puncture site is swabbed with antiseptic and the area is covered with theatre towels. The tissues over the vein are anaesthetised with local anaesthetic and then a needle is inserted into the vein.
- The radiologist will use the x-ray equipment and small amounts of dye to make sure that the catheter is moved into the right position.
- The stent can be placed through a vein in your neck or through a vein in your groin. The radiologist will tell you about the approach he/she will use.
- Once the radiologist is satisfied that this is correctly positioned, a guide wire is placed through the needle into the vein. Then the needle is withdrawn and a fine plastic tube, called a catheter, is placed over the wire into the vein. The catheter is moved through the narrowed vein and x-ray dye injected to assess the narrowing further.
- A small dose of blood thinning medication will be injected and the stent placed into the vein through the special catheter. It is usually necessary to stretch the stent by blowing up a small balloon within it. This may cause some discomfort, but does not take very long.

Will it hurt?

Some discomfort may be felt in the skin and deeper tissues during the injection of the local anaesthetic. Some discomfort in the chest or shoulders may be experienced when the balloon is blown up. There will be a nurse, or another member of clinical staff looking after you, who can give you more painkillers if required. As the dye passes around your body, you may get a warm feeling. However this soon passes and should not worry you.

How long will it take?

Every patient's situation is different and it is not always easy to predict how long it will take. As a guide expect to be in the radiology department for about an hour and a half.

What will happen afterwards?

You will be taken back to your ward on a trolley.

Groin approach: You need to stay flat on your back for one hour.

Neck approach: You will need to sit upright for one hour.

Nurses on the ward will carry out routine observations, such as your blood pressure and pulse, at regular intervals. They will also look at the puncture site to make sure there is no bleeding from it. Unless you require other treatment you should be able to go home the following day.

Are there any risks or complications?

SVC obstruction is a serious condition. The overall mortality rate is low (3 in 100) with this procedure and most people benefit from a good reduction in symptoms after this procedure.

Overall, benefits outweigh the risks and this will be discussed with you by your doctors.

SVC stent insertion is a safe procedure, but there are some risks and complications that can arise.

- There may occasionally be a bruise or bleeding from the puncture site in the groin or neck.
- Very rarely, some damage can be caused to the vein or the nearby artery by the catheter, and this may need to be treated by surgery or another radiological procedure.

- In some cases the sudden increased return of blood to the heart may cause heart failure and fluid on the lungs.
- Sometimes the stent can become blocked by a clot. This may cause recurrent swelling of the arms and face and may require further procedures.
- The stent could be placed in the incorrect position or move into the heart or lungs but this is not common.

What are the benefits of the procedure?

Restoring the blood return to the heart gives long-lasting relief to most people who have SVC stents.

What are the alternatives?

Other treatment options include radiotherapy or chemotherapy to reduce the tumour, blood thinning medication, venous bypass operations or doing nothing.

What happens next?

Once the stent is implanted it stays in place indefinitely. Your doctors will discuss other treatments you may need.

Further information is available from the radiology department on the phone numbers below or from the following websites:

Macmillan Cancer Support www.macmillan.org.uk

British Society of Interventional Radiology www.bsir.org

If you have any problems or worries, please contact:

From 9am to 5pm: Radiology nurse, on **0161 446 3325** or
Radiology department on **0161 446 3322**

Out of hours and weekends:
(for emergencies) Ring The Christie on **0161 446 3000** and ask for the on-call Radiologist

Christie Hotline: **0161 446 3658** (24 hours)

Contact The Christie Hotline for
urgent support and specialist advice

**The Christie Hotline:
0161 446 3658**

Open 24 hours a day, 7 days a week

We try to ensure that all our information given to patients is accurate, balanced and based on the most up-to-date scientific evidence. If you would like to have details about the sources used please contact **patient.information@christie.nhs.uk**

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For more information about The Christie and our services, please visit **www.christie.nhs.uk** or visit the cancer information centres at Withington, Oldham or Salford.

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