Vascular Access Department

Insertion of a tunnelled Central Venous Catheter

Information for patients
What is a tunnelled central venous catheter (CVC)?

A CVC is a long, narrow tube (catheter) that is put into a vein in the chest. A CVC is usually recommended for patients who need certain types of medicines or treatments that would irritate or damage smaller veins; or who need injections over a long period of time. (A CVC is also sometimes referred to as a central line, or by its trade name – a Hickman line.)

The CVC is inserted through a vein in the neck or top of the chest. The tip will lie in the large vein, just above your heart. It is “tunnelled” under the skin and comes out on your chest wall. At this end there is a cuff, which allows the surrounding tissue to grow around it so that the CVC stays firmly in place throughout your treatment. The tunnel and cuff also help to prevent infection. The CVC can stay in place for months or years.

The hollow space in the centre of the CVC is called the lumen. Your catheter may have between 1 and 3 lumens depending on your treatment (sometimes referred to as Tails) – allowing you to have different treatments at the same time. At the end of the tube outside the body each lumen has a special cap to which a drip line or syringe can be attached.

A specially trained nurse called a Clinical Nurse Specialist (CNS) will insert the CVC at your bedside.
Risks

You will need to give your written consent before we can insert the CVC. The CNS will discuss the risks and benefits of the procedure with you beforehand and also discuss with you any questions or concerns you may have.

There are some risks involved in this procedure but they are all rare:

- damage to the lung (pneumothorax)
- bleeding
- infection
- thrombosis (blood clot)
- The line could go into the wrong vein. We would have to use interventional radiology to move it into the right place.

Preparing for the CVC

The CNS will assess you to make sure that it is suitable for you to have the CVC inserted at the bedside. A blood sample will be taken beforehand to check the clotting speed of your blood. If you are taking warfarin or any other medicines to thin your blood, you will be advised to stop these beforehand. The doctor or nurse will discuss this with you.

We advise you to be ‘nil by mouth’ (having nothing to eat) for 6 hours before the procedure. You may have clear fluids up to 2 hours before. This is because the sedative may make you feel nauseous.
What happens during the procedure

We will usually give you a sedative through a small, plastic tube which has been put into a vein in your hand or arm. This will make you feel sleepy – you will be awake, but you will not be able to remember much about the procedure. After the sedation you will not be able to drive or use machinery for 24 hours. We will monitor the oxygen levels in your blood and give you extra oxygen if necessary.

The Clinical Nurse Specialist will decide on which side of the chest or neck to insert the CVC. If it is to be inserted in the neck, ultrasound will be used to identify the vein. The CNS will clean the area and then give you an injection of local anaesthetic to numb the skin. This usually stings a little. The CNS will then insert the CVC. You may feel a “tugging” sensation, but you should not feel any pain. The CVC will be stitched in place at the insertion and exit sites.

What happens after the procedure

We will take an X-ray of your chest to make sure that the CVC is in the correct place and also to make sure that there is no damage to your lung. The doctor will check the X-ray before the CVC is used.

If you have been given sedation, you will be sleepy for a short time. A nurse will look after you until you recover from the sedation. It is important that you stay lying down for about an hour. This is because some people feel a little unsteady until the effect of the sedation has completely worn off. There may be some bleeding from around the insertion site. This is quite normal. The nurse looking after you will apply further dressings when necessary.
It is normal to feel a little discomfort or aching around the site of the CVC for the first 24 hours. Mild painkillers will usually be enough to ease this. If you develop a dry cough, become breathless or experience excessive pain, you should seek advice from the hospital immediately.

A nurse or your doctor’s surgery will remove the stitch at the insertion site after 5 to 7 days. The stitches, which hold the CVC in place at the exit site, may be removed after 3 weeks. However, they can be left in for the duration of your line if they are not irritating the skin.

**Signs to look out for**

Any pain, redness or swelling in the arm or the neck on the side the line is placed must be reported immediately to the department where you are receiving your treatment – for example, the Day Treatment Unit.
Aftercare

The two dressings on the CVC should be changed 24 hours after insertion and then every 3 day’s – or sooner if the dressing becomes loose, wet or blood stained. It is important it keep the CVC exit site covered for the first three weeks.

This care may be done by nurses at the hospital or by a district nurse. Some patients learn to look after their own catheters, with plenty of support and guidance from nurses in the hospital and at home.

If you are showering or bathing, never allow the tails of the CVC to submerge in the bath. After a bath or shower, change the dressings immediately.

At all times the CVC tails should be supported within a tape necklace.

Do not hesitate to remind any healthcare practitioner who handles the line to wash their hands, wear gloves and clean the bung thoroughly before and after use. This will help to prevent infections.

Activities and sports

We discourage sports such as tennis, golf and vigorous gym exercise. Please do not swim with your Tunnelled CVC in situ.
Removing the line

You will need a blood test before your line is removed.

A CNS or doctor will remove it.

The cuff in the tunnel adheres to the underneath layer of skin so the CVC is not easily pulled out – it will need to be gently released. The area of skin around the cuff will be cleaned and made numb with a small injection of local anaesthetic. The CNS or doctor will make a small incision in your skin. This will allow the cuff to be loosened from the underneath of the skin.

You will feel a bit of pressure but it will not hurt. Once the cuff is free the line will come out easily. Gentle pressure will then be applied where the line went into the vein. You will have 1 or 2 stitches in your skin. You should then rest on the bed for a while before leaving.

The stitches will have an airtight dressing over them and this should remain in place for 48 hours. Your stitches are removed in 7-10 days by a healthcare professional at your doctor’s surgery.

If you have any concerns before the stitches are removed please contact your doctor’s surgery.

How to contact us

If you have any questions or concerns, please contact:

**Vascular Access Department**  
Tel: 01865 221653 (Monday – Friday, 9am-5pm)

Further information

www.nice.org.uk – go to TA49 information for patients.
If you need an interpreter or need a document in another language, large print, Braille or audio version, please call 01865 221473 or email PALSJR@orh.nhs.uk

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