

## Central venous catheter insertion - Tunnelled cuffed catheters

### Central venous catheter insertion

describes the placement of a hollow plastic tube ('catheter') into a large vein in the chest. Central venous devices may be used for several purposes, including delivering nutrition or long-term medications through a vein (intravenous) or filtering blood.

### How will the procedure benefit me?

The major benefit is that you will not require repeated needle sticks for injections or cannulas (little tubes that are placed in the veins of the hands or arms, that have to be changed every few days). The catheter is placed into a vein in the neck or front of the chest and passes from this point to the large veins in the middle of the chest. The catheter can be safely left in place for as long as it is needed.

### How should I prepare for the procedure?

You may be asked to fast for 6-8 hours before the procedure. If you are taking any medication, please tell your doctor, as some medications may need to be stopped or changed beforehand.

### The procedure

Often, the procedure is performed awake under local anaesthesia, but sometimes you may be given sedatives which will make you feel drowsy. Local anaesthetic is used to temporarily numb the skin. In babies and children, the procedure is often performed under general anaesthesia. Generally, the procedure takes 30-45 minutes.

After the local anaesthetic has taken effect, a small cut (incision) is made in the skin and a needle passed into the vein underneath, using ultrasound to watch the needle as it is advanced into position.

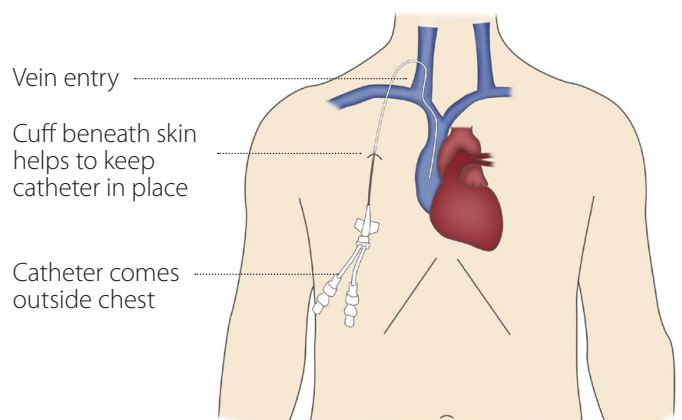
A small wire is then passed through the vein to the central veins using x-rays (fluoroscopy) for guidance, followed by the central venous catheter. The "outside" part of the line is then fixed to your skin with either a temporary stitch or a special dressing (or both).

Different types of catheters may be used; among the most common are:

#### Tunnelled cuffed catheters

(e.g. Hickman line, Groshong line)

These catheters are placed in a large vein in the neck via a small cut in the skin. A small wire is then passed through the vein to a vein in the chest using x-rays (fluoroscopy) for guidance, followed by the central venous catheter. Instead of the catheter coming out of the skin at the neck, it is "tunnelled" under the skin of the upper chest so that it exits the skin some distance away from where it enters the neck vein.



**A tunnelled cuffed catheter**

### What are the risks?

There is a small risk of bleeding when the incisions are made. As the central venous device has direct access to the bloodstream, infection can be a risk after the procedure.

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There is also a small risk of puncturing the chest and causing the lung to collapse, but this is extremely rare, and is easily treated by passing a small tube to allow the lung to reexpand.

The line can also become blocked or dislodged, which can sometimes be corrected, but occasionally requires replacement.

## What should I expect after the procedure?

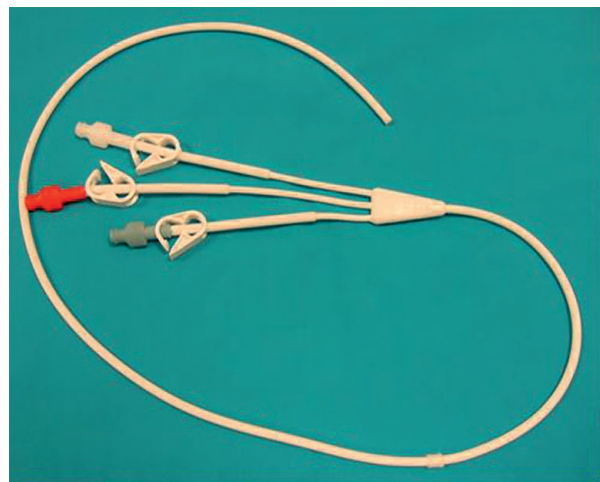
You will return to a ward and the central venous catheter can be used immediately. If you have not had intravenous sedation, you may eat and drink soon afterwards. After general anaesthetic, some people feel sick, vomit or have a sore throat. The area where the catheter was inserted may feel temporarily uncomfortable, but this should be easily controlled with paracetamol (if not allergic).

## How do I manage the dressings?

### What is the follow-up plan?

This depends on the type of dressings used. Steristrips (little sticky strips of paper) are often used and should stay in place for five days or so, at which time they are expected to drop off normally. Non-absorbable stitches need to be removed after 5-7 days. The medical staff should give you clear directions as to when any stitches/dressings need to be removed and the wound inspected. This can frequently be performed by your general practitioner or their practice nurse, so that you don't need a separate trip back to the hospital.

The tube will stay in place as long as you are getting treatment. When no longer needed, the tube is removed under local anaesthetic (in children it is often removed under general anaesthetic). There is a small risk of bleeding when the CVC is removed, but this is minimised by the staff applying pressure to the area for a few minutes afterwards.



A Hickman line

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