

Anaesthesia and Pain Services

Central venous catheter (CVC) insertion

This leaflet tells you about central line insertion. It explains what is involved and what the possible risks are.

It is not meant to replace an informed discussion between you and your doctor but can act as a starting point for such discussions. If you have any questions about the procedure, please ask the doctor who has referred you or the doctor who is going to perform the procedure.

Why do I need a central line?

Central lines are inserted as a part of major surgical procedures or in patients requiring intensive care treatment. In such cases, it will be explained to you during pre-operative assessment.

Sometimes a central line needs to be inserted as a stand-alone procedure, and in adults this normally does not need any general anaesthetic or sedation. There are two main indications to insert central lines:

1. The medication you have been prescribed can only be administered through a very big vein inside your chest. A common example is Total Parenteral Nutrition (or TPN).
2. You need regular intravenous medication, and your veins on your arms are not visible or are too small to access.

What are central lines?

Central lines, or a central vascular catheter (CVC), is a hollow tube inserted into one of the big veins lying on either side of your neck.



Patient Information

Sometimes, the area below your collar bones or your groin may be used as an alternative.

The tip of the tube lies in a big vein inside your chest. The outside part of the tube is sutured to your skin and covered with a see-through dressing. The tube often has more than one (1 to 5) 'wiggly' inlets, or lumens, so different drugs can be given simultaneously. The catheter is designed to stay for 7 to 10 days, although in uncomplicated cases it may be left for longer.

Are there any alternatives?

The hospital provides a CVC insertion service 24/7 depending on clinical need. In some situations, other types of catheters/tubes could be an option (PICC, midline, Hickman line).

The access to alternatives may involve 1 to 3 days waiting time. CVC is inserted if your treatment has to commence without a delay or the access is needed only for a predictable short period of time.

What are the possible complications?

Common: pain or discomfort (often related to fixation suture), bruising

Rare: infection (including blood-stream infection), catheter obstruction/occlusion requiring line removal/replacement, irregular heartbeats (mostly during insertion process), thrombosis (clot formation around the catheter)

Very rare: perforation of a big vein, artery or even the heart muscle, collapsed lung with or without bleeding, air entering the bloodstream, catheter breakage/wire retention, nerve injury

You might need some additional treatment if some of these complications occur.

Where will the procedure take place? Who will do it?

The procedure will usually take place in operating theatres or in intensive care. Doctors specialising in anaesthesia are experts in central line placement and one of them will do it.

What happens during the insertion? Will it hurt?

You will be positioned flat in your bed and asked to turn your head to one side.

The doctor will use an ultrasound scanner to locate your veins. The area of skin on your neck (or other part – see above) will be disinfected and a clear sterile sheet covering your face/neck and upper chest is placed around it. You will feel injection of a local anaesthetic that may sting a bit for a few seconds.

During the insertion, the doctor may apply some pressure to your neck. It should not hurt but might be uncomfortable.

How long will it take?

The procedure takes approximately 15 minutes, although can be significantly longer in more complex cases.

After that, you might need to wait for the X-ray picture to be done to confirm the line placement is correct.

Some of your questions should have been answered by this leaflet. Remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure.

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact us on 02476965871 and we will do our best to meet your needs.

Patient Information

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