

Tunnelled Central Venous Catheter (CVC) Insertion

This information sheet explains about the procedure to insert a central venous catheter (CVC). It describes what the procedure involves and what to expect when your child comes to the Interventional Radiology department for this procedure.

Please note that this leaflet is not meant to replace discussion between you and your child's doctor. You should raise any questions you may have with the doctor who has referred your child for, or is performing, the procedure.

What is a central venous catheter (CVC)?

A central venous catheter (CVC) is a soft plastic tube which is tunnelled under the skin into a vein in the neck. It is then threaded through the vein into the right side of the heart. A CVC provides easy and reliable access to your child's bloodstream.

Why does my child need a CVC?

There are many reasons why your child might benefit from a CVC, but the most common reasons are for taking regular blood samples for testing, giving medicines such as chemotherapy on a long-term basis or giving nutrition directly into the bloodstream.

There are various types of central venous access device. However, depending on your child's age and the reason why they need one, some options may not be appropriate. The doctors and nurses will explain the benefits and drawbacks of each available option before you and your child make a decision.

How does my child prepare for a CVC insertion?

You will already have received information about how to prepare your child for the procedure in your admission letter. You may need to come to the hospital before the procedure so that your child can have a pre-admission assessment to check that they are well enough. The appointment may involve taking blood samples and other tests.

Often CVC insertion happens while your child is still in hospital. The doctor will explain the procedure in more detail, discuss any worries you may have and ask you to sign a consent form giving permission for your child to have the procedure. If your child has any medical problems, please tell the doctors.

Many of the procedures we perform involve the use of X-rays. Legally, we are obliged to ask any girls over the age of 12 whether there is any chance they might be pregnant. This is to protect babies in the womb from receiving unnecessary radiation.

Your child will need to have a general anesthetic for this procedure. It is very important that your child's stomach is as empty as possible on the day of the procedure, as this reduces the risk of vomiting during and after the anaesthetic. If someone vomits during an anaesthetic, there is a chance that the stomach contents could get into the lungs, damaging them. Your child's nurse will explain exactly what time your child can last eat or drink before the procedure. Please follow these instructions carefully, otherwise your child's procedure may be delayed or even cancelled.

How is a CVC insertion performed?

Once your child is under general anaesthetic, the doctor will use a variety of imaging techniques, such as ultrasound or X-rays, to look for a suitable vein in the neck. Once they have found one, they will inject the area around the vein and the side of the chest with local anaesthetic to make it numb for a few hours.

The CVC is tunnelled under the skin on the chest through a small incision until it is near the neck vein. They then make a small puncture into the neck vein and thread the CVC into it until it reaches the right side of the heart. The doctor may make a final check that the CVC is working correctly by injecting some contrast liquid that shows up well on x-rays. The CVC is flushed through with salt water solution

(saline) and then 'locked' with a liquid called heparin so that clots cannot form inside the tube. The neck incision is covered with a sticky paper stitch which should stay in place for five days or so. The CVC is held in place at the exit site with a stitch and covered with a see through dressing. The exit site is where the CVC comes out through the skin.

Who performs a CVC insertion and where?

CVC insertion is performed by a healthcare professional specially trained in image guided procedures. This can be a nurse, doctor or radiographer. Most often it is done in the X-ray department or sometimes in an operating theatre with X-ray equipment.

What are the potential risks associated with CVC insertion?

The CVC is inserted while your child is under general anaesthetic. Although every anaesthetic carries a risk, this is extremely small. There is a small risk of bleeding when the incisions are made but this is unlikely as they are very small. A risk of damage to the lung has been reported but this is very rare with the modern techniques used.

As the CVC gives direct access to the bloodstream, infection can be a risk after the procedure. The CVC may also become blocked, dislodged or fall out, meaning that it will need to be replaced. You will need to look after the CVC very carefully but you will be taught everything you need to know before you leave the hospital. The nurses will also give you a written information booklet to remind you about what you have been taught.

What happens afterwards?

Your child will return to the ward after they have recovered from the general anaesthetic. Some children feel sick and vomit after a general anaesthetic. Your child may have a headache or sore throat or feel dizzy, but these side effects are usually short-lived and not severe. The area where the CVC was inserted will feel uncomfortable for a while afterwards, but this soon passes. The nurses will give your child pain relief as needed. Your child can start eating and drinking as normal once they feel like it. The CVC can be used immediately if required. The sticky paper stitches at the neck should stay in place for five days or so but will then start to drop off – this is normal. The see through dressing may need to be changed after 24 hours, particularly if the exit site has oozed after the operation.

If your child does not need to stay in hospital for treatment, you can return home once you are confident in caring for the CVC. Your nurse will provide you with instructions on how to look after the CVC at home.

In the first few days after insertion, you should call the hospital if the neck and chest incisions look red, swollen and feel hotter than the surrounding skin, the incisions are oozing, your child is in a lot of pain and pain relief does not seem to help or your child has a temperature of 38°C or higher.

Notes