Care of your central venous catheter
A guide for patients and their carers

We care, we discover, we teach
This booklet contains information about central venous catheters (CVC). These are sometimes called long lines or Hickman® catheters. The first part of the booklet describes what they are and how they are put in. Please make sure you read all this section before you have your line inserted. The second part of the booklet tells you how to care for the line and answers some frequently asked questions.
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Christie website

Many of The Christie booklets and a list of UK help groups are available on The Christie website.

You can also access other patient information sites in the UK such as Macmillan Cancer Support and Cancerhelp UK via The Christie website.

www.christie.nhs.uk
What is a central venous catheter?

A central venous catheter is a long fine hollow tube with an opening at each end. One end is outside your body, the other end is situated in a large vein in the chest. It can remain in position for several months.

There is a cuff on the line which holds it in position under the skin and prevents it falling out. The cuff also helps prevent infection. About 12 inches of the line remain outside the chest. There is a plastic clamp on this which must always be closed when the line is not in use. The end of the line always has a plastic bung or cap attached to it when it is not being used.

If you need more than one drug at a time, you may have a central venous catheter with 2 lumens, that is, a line with 2 ends. (See diagram above)
What are the benefits of having a central venous catheter?
The line may be used to give chemotherapy, fluids, blood or other drugs directly into your bloodstream. Some chemotherapy drugs are not suitable to be given into the veins in your hand or arm, so these drugs must be given into a larger vein. It may also be used for taking blood samples which are needed regularly, avoiding the need for repeated needle stabs in your arm. Some patients are able to continue their treatment at home with a central venous catheter in place. People who have a phobia of needles may prefer to have a central venous catheter.

What to tell the doctor
It is important to tell the doctor or nurse before attending for fitting of your central venous catheter if you are on any medication to prevent or treat blood clots, such as warfarin, heparin, dalteparin (Fragmin), aspirin or clopidogrel. You must not take aspirin or aspirin-containing products for one week before line insertions, as this prevents blood clotting normally. Before the procedure, we will take blood samples to make sure your blood count is satisfactory and your blood is able to clot normally. If your blood does not clot normally, we may insert an alternative central line.

You will need to have a routine swab taken to check for MRSA before the procedure. MRSA is a bacterium or germ that is resistant to some antibiotics.

Most people carry germs on their skin and in their nose which are usually harmless. However, when you have a line inserted it is possible that these germs can travel up the line and into your bloodstream causing infection, either in your
blood or at the site on your skin where the line comes out of your body.

To help prevent infection you have been given an antiseptic body wash and nasal cream which you must use ideally for 5 days before your line is inserted.

How is it put in?
The central venous catheter is inserted by a nurse specialist or a doctor. A local anaesthetic is used to numb the area where the line is put in. You may be given sedation so that you are drowsy and relaxed throughout the procedure. This is only for very anxious patients and is optional.

Once the line has been inserted there will be one stitch at the base of the neck (this will be removed after 7 days).
This is called the ‘insertion site’. There is one stitch at the exit site where the line comes out of the chest, which can be on your right or left side. The line has a small dacron cuff around it. The tissues heal around it under the skin to help prevent the cuff from falling out. Following insertion, you will have a chest x-ray to ensure it is in the correct position.

The stitch at the exit site, holding the line in place, will be removed after 3 weeks.

If you have sedation you will not be able to drive, or use machines for 24 hours or sign any legal documents so please arrange for a relative or friend to collect you. You must also have an adult to stay with your for 24 hours. You should not drink alcohol for 24 hours after having sedation.

Are there any alternatives to a central venous catheter?

It is possible for some people to have a different type of central venous catheter inserted. If you would like more information, please discuss this with your doctor or procedure nurse.

What would happen if I decide not to have a central venous catheter?

For some treatments, it may be possible to have chemotherapy into a vein in the hand. In this case, you would have to be admitted to hospital which might delay the start of your treatment.
What are the risks of central venous catheter insertion?

As with most procedures there is a small risk of complications. The risk can depend on what type of cancer you have.

- Infection: as with all surgical procedures there is a risk of infection occurring.

- Accidental puncture of the lung: this happens to about 1 in 7500 patients at The Christie who have a line inserted into a vein at the base of the neck. This allows air to leak into the chest and sometimes needs a tube to be placed in the chest to drain off the air.

- If the catheter tip in the vein is not in the correct position it may need adjusting.

- Accidental puncture of the artery, which may cause bleeding. About 1 in 1000 patients may have an artery punctured but staff are very careful to prevent any bleeding by checking your blood count and that your blood is able to clot normally.

- Embolus: a small risk of embolus (clot) if the catheter or guide-wire breaks, or air embolus (bubble of air) within the blood stream.

- Thrombosis: a blood clot may develop. This is a longer term risk associated with lines. Signs of this include pain, swelling and discomfort in the neck or arm on the side the catheter is placed.
Can I eat and drink before having my central venous catheter inserted?
It is advisable to have a light breakfast before coming to the hospital as you will not need a general anaesthetic for your line insertion.

Will I need to stay in hospital after my central venous catheter has been inserted?
Some patients will be admitted routinely if they are starting chemotherapy treatment on the same day as the central venous catheter is inserted.

Patients who are going to have their central venous catheter inserted but no chemotherapy that day, do not have to stay in hospital as long as there are no complications.

Living with your central venous catheter

**Can I have a bath/shower?**
As a general rule we encourage people with lines to take a shower. This is preferable to submerging your line and exit site in bathwater because of infection risk. **Please remember to use an anti-bacterial bodywash (for example, Hydrex) to bathe or shower and wash your hair until your line is removed.**
Can I lead a normal social life?
Having a central venous catheter in place should not interfere with your social life. However, your chemotherapy drugs may temporarily restrict certain social activities either immediately after treatment or if your ‘blood counts’ are low. Your nurse or doctor will give you more specific information. **Please talk to your doctor before planning a trip abroad with a central line in place.**

Can I play sports and swim?
Sports and exercise that include vigorous activity should be avoided. There is a small risk that your central venous catheter could become dislodged because of excessive upper-body movement. There are many other pursuits which are acceptable. If in doubt ask your nurse or doctor. We advise you not to go swimming because of the risk of infection. If you have any questions about any aspect of your central venous catheter position or appearance, do not hesitate to contact either your ward or the procedure team nurses.

Will my central venous catheter affect my sex life?
Having a central venous catheter in place should not interfere with your sex life. To minimize the risk of damage to your line ensure it is secure before making love. Sometimes, when you are feeling unwell or having cancer treatment, you may lose interest in sex.

Adequate contraception is essential during cancer treatment to avoid pregnancy because of the risk of damage to the baby.
What happens if the central venous catheter breaks?
In the unlikely event of your line cracking or breaking, don’t worry: clamp, pinch or tie your central venous catheter immediately above the break. Contact The Christie as soon as possible. You will have to return to have it repaired or replaced.

How is the central venous catheter removed when it is no longer needed?
The central venous catheter is removed by releasing the cuff which holds it in place under the skin. A local anaesthetic is given to numb the area around the cuff. Two stitches are in place for 7 days after the line has been removed. Arrangements will be made for these to be removed after one week.

How will I know if something is wrong?
Contact The Christie Hotline on 0161-446-3658 immediately if you suspect that something is wrong or if any of the following happen.

- **Infection**
  If you have a temperature above normal (temperature greater than 37.5 degrees centigrade), fever, chills or feel generally unwell, this could indicate the beginning of an infection.

- **Other signs of infection**
  If you have pain, redness or swelling around the exit site, or oozing from around the line.

- **Signs of a blood clot**
  Tell us immediately if you have any pain, swelling or discomfort in your neck or arm on the side the catheter is inserted. This may be a symptom of a clot forming or the line may have moved out of position.
Caring for your central venous catheter

Caring for the exit site

It is important that you take care of your central line to prevent it from becoming infected or blocked. The following guidelines should be used.

To prevent infection your central line must be kept clean and dry at the exit site, where it comes out of your chest, and also at the end where the bung is attached.

A transparent dressing will cover the exit site while the stitch is in place. If the wound appears clean and dry your nurse will change this dressing each week. After about 3 weeks, when the wound has healed, the stitch will be removed.

A dressing will then no longer be needed, but the line must always remain looped and secured with tape. If you have any problems at home, please ring The Christie using the numbers on the back cover of this booklet.

If you have an infusor connected continuously to your central line, it will require flushing 12 – 18 hours after it empties. For further information see “The Baxter Infusor. A Patient’s Guide”.

Position of central line on chest following insertion
It is not advisable to wear jewellery, necklaces or beads around your neck as this can lead to an infection of your catheter.

**Keeping the central line clear**

Guidelines for your district nurse are included at the end of this booklet to enable them to carry out this procedure at weekly intervals. Alternatively, you can return to The Christie to have your line flushed if it is more convenient for you to do so.

When your central line is not being used the clamp must remain closed.

Regular flushing of your line is necessary to prevent it becoming blocked. Firstly, the fluid within the line is withdrawn and thrown away. The line is then flushed with sterile saline and Hepsal which is an anti-clotting agent. A new bung is then attached.

If your central line has two or more ends, each end must be flushed separately.

**If you experience a cold and shivery feeling during or after flushing your line, contact The Christie Hotline immediately as this could be due to an infection in the line.**

When your line is not being used, remember to check daily that the bung is securely attached and the clamp is closed.

**PLEASE NOTE:**

This should always be a sterile procedure so do not hesitate to remind anyone who handles your central line to wash their hands to protect you from infection.
Information for the district nurse

Your patient had a central venous catheter (Hickman® Line) inserted on

There is a small dacron cuff on the part of the line which lies under the skin in the ‘skin tunnel’, between the base of the neck and the exit site where the line comes out.

It takes about 3 weeks for the tissues to knit on to the cuff under the skin. It helps to secure the line and also acts as a barrier to help prevent infection.

There are usually 2 sutures in situ: one at the insertion site at the base of the neck, this suture may be removed after 7 days. The second suture is at the exit site on the chest and should be removed after 21 days when the cuff has firmly knitted in.

**Dressing**

Formal dressings requiring a strict aseptic non touch technique (ANTT) are required until after the sutures have been removed (3 weeks). During this time the exit and insertion sites should be cleaned using a solution of 2% Chlorhexidine Gluconate and 70% isopropyl alcohol e.g. Chloraprep.

Whilst the sutures are in place, the line must be dressed weekly or more frequently if the dressing becomes loose or
soiled, using strict ANTT. The line must remain looped and firmly secured with an opaque, semi-permeable dressing e.g. IV3000.

Once the sutures have been removed, formal sterile dressings are no longer required but the line must remain looped. Surgical tape is sufficient to support the line.

The patient is allowed to shower or bath as usual, however, showers are preferable. If baths are taken, please remind the patient to tape the line up and ensure that neither the hub nor exit site is submerged.

**Please remind patients to continue to use an antibacterial body wash (e.g. hibiscrub) to bath or shower and wash their hair until the line is removed.**

When continuous infusion pumps are running the line does not need to be flushed. However, if no therapy is in progress, the line will need to be flushed with normal saline 0.9% and 5mls of Hepsal 10 units/ml once every week whilst the patient is at home.

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**Please note:** All essential equipment will be provided for the first dressing/flushing of the line when patients are discharged from The Christie.
Procedure for flushing and locking a tunnelled central venous catheter (CVC) in the community

Materials required:

- Clean field i.e. plastic tray or dressing towel
- 3 x large sterile wipes of e.g. Sani-cloth
- 10mls syringe x 3 (for each separate lumen)
- Green needle x 2
- 10mls of normal saline 0.9% (for each separate lumen)
- Sterile bung (one for each lumen)
- 5mls heparinised saline 10 units per ml e.g. Hepsal (for each separate lumen)

1. Wash hands thoroughly. Remove soiled dressing and wash or alcohol gel hands again. Prepare clean field, by cleaning plastic tray with 2% Chlorhexidine wipe and allowing to air dry for at least 30 seconds. Or open dressing towel.

2. Draw up 10mls normal saline 0.9% and 5mls heparinised saline 10 units per ml. Protect key parts by putting back into packaging and placing onto the clean field.

3. Open and place all other equipment and place onto clean field, protecting all key parts.

4. Alcohol gel hands and put on clean non-sterile gloves. Pick up the CVC, ensuring the line is clamped shut. Remove the bung and discard. Clean the hub with 3 different areas of the 2% Chlorhexidine wipe (Sani-cloth) for at least 30 seconds and allow to completely
air dry. Hold on to the line at all times. **Do not drop.** Always protect your key parts.

5. Attach an empty 10mls syringe to end of line, open clamp and withdraw 10mls of blood slowly. Close clamp and disconnect syringe and discard.

**If you are not able to withdraw blood, close the clamp, attach a new sterile bung and contact The Christie for advice.**

6. To flush the line, attach syringe of normal saline 0.9%, open clamp and slowly flush in, using push-pause technique. Close clamp, disconnect syringe and discard.

7. To lock the line, attach syringe of heparinised saline 10 units per ml, open clamp and flush in slowly. Clamp line whilst administering the final 1ml of Hepsal, to maintain positive pressure and prevent the backflow of blood into the line.

8. Clean again if required and allow to air dry for at least 30 seconds. Attach new sterile bung.

**PLEASE NOTE:**

Before chemotherapy is administered via a central line, blood must always be withdrawn to ensure that the tip of the line remains in the vein. Please ring The Chemotherapy Day Services on 0161 918 7171 for queries related to chemotherapy.

For queries related to the care and management of the central line or if you wish to observe and practise the flushing and dressing procedures at The Christie, please contact the procedure team on 0161 446 3916.
For the visually impaired: Large print versions of the booklets are available. Please contact Patient Information on 0161 446 3576 or you can download these from The Christie website at www.christie.nhs.uk.

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 problems or queries about your central venous catheter, please contact the Procedure Team on:

0161 446 3916
(9am – 5pm)
Out of hours please ring The Christie Hotline.

If anything unusual occurs, or you are at all worried, contact:

The Christie Hotline
0161 446 3658
the line is open 24 hours a day