NHS
The Christie
NHS Foundation Trust

Care of your peripherally inserted central catheter (PICC)

A guide for patients and their carers

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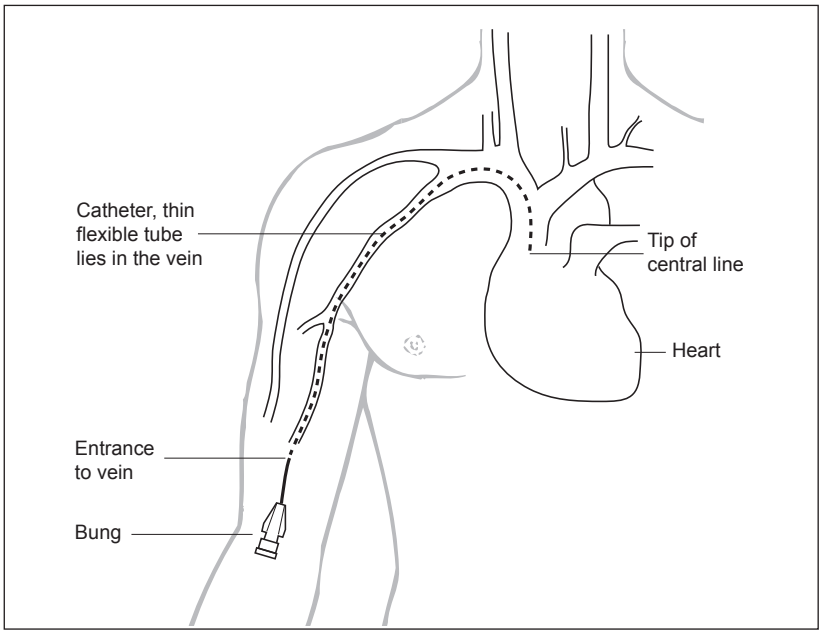
Christie website

For more information about The Christie and our services, please visit **www.christie.nhs.uk** or visit the cancer information centre at Withington, Oldham or Salford.

What is a PICC?

A PICC is a peripherally inserted central catheter. It is a thin flexible tube that is inserted into a vein in the upper arm. The PICC is then threaded along the vein so that the tip lies in one of the large veins in the chest. A specially trained nurse or doctor will insert your PICC. Not all patients are suitable for a PICC, so a doctor or nurse will assess you before one is inserted.

The illustration below shows the PICC line, and where it enters the vein at the inside of the upper arm.



How is it put in?

The doctor or nurse will clean the skin, place drapes around the insertion site then inject a local anaesthetic to numb the area where the line is to be inserted. The procedure usually takes about 30 minutes. Most people do not find the procedure painful or uncomfortable.

Once inserted, it is important to confirm that the tip of the PICC on the inside is in a suitable position. This can usually be done during the insertion using specialised equipment, but this is not always possible. In this instance you may need to have a chest x-ray to confirm that your line is in the correct position.

The PICC will be held in place with an adhesive dressing and covered with a clear, water resistant dressing.

What are the benefits of having a PICC line?

- A PICC can be used to give chemotherapy, anti-cancer drugs, fluids, antibiotics and other drugs directly into the vein. It can also be used for taking blood samples, which reduces the amount of needles used.
- A PICC line is inserted when a central line is needed for intravenous treatment for longer than 14 days and it can be used for several weeks or months. A PICC may be used when infusions irritate or damage peripheral veins in the hand or arm, when a continuous infusion is needed, or when long-term chemotherapy or anti-cancer therapy is needed.
- They are suitable for people who have veins which are difficult to find or access, or for people who are very anxious about needles.
- A PICC is sometimes used temporarily for people who should ideally have a tunnelled central venous catheter or an implanted port, but are not able to have one because, for example, they are on blood thinning therapy such as warfarin or aspirin, have abnormal blood count results, or are unable to lie flat. In this situation, a PICC means treatment can be started without delay.

Are there any alternatives to a PICC line?

If you are unable to have a PICC, a tunnelled central venous catheter or a TIVAD (totally implantable vascular access device) may be considered. Your doctor or nurse specialist will discuss the options with you.

What will happen if I decide not to have a PICC line?

For some treatments, it may be possible to have chemotherapy into a vein in the hand. In most cases, you would then have to be admitted to hospital for the treatment. Some chemotherapy, however, can only be given via a central line, so you would need to discuss treatment options with your doctor.

When will it be removed?

The PICC should be removed once your intravenous chemotherapy / anti-cancer therapy is completed. If you are unsure when this is, please ask your medical team. When it is removed, the PICC site is cleaned and the PICC is gently pulled out and usually does not cause any pain or discomfort.

What are the risks of PICC insertion?

As with most procedures there is a small risk of complications which may include:

- infection – there is a risk of infection after having a PICC inserted
- occlusion/blockage – the PICC may become partially or completely blocked, which may simply be due to a kink or pinching. The nurses caring for your PICC have step by step instructions to help deal with this situation. Correct flushing is one of the most important factors to prevent this. On rare occasions the PICC may have to be removed

- bleeding and/or bruising – this may occur around the insertion site, especially in people whose blood does not clot normally
- problems inserting the PICC – due to a narrow vein, blockage or other anatomical feature. An ultrasound assessment is undertaken prior to the procedure to reduce this risk. The risk of damage to the nerve or artery is small as the ultrasound scan is used to avoid these structures and access the vein safely
- embolus – this can be either an air embolus (bubble of air within the bloodstream) or equipment embolus if the catheter or piece of equipment breaks
- thrombosis or blood clot – signs of this include pain, swelling and discomfort in the neck or arm on the side that the PICC has been placed
- malposition – sometimes during insertion the PICC tip is positioned in the wrong vein. This may be identified by an x-ray following the procedure. The position of the catheter may be readjusted or replaced in the x-ray or procedures department

Rarer, more infrequently occurring risks may occur (see list below). Please ask your nurse or doctor if you would like any more information on any of these potential complications:

- tamponade, secondary to vessel wall damage
- atrial or ventricular perforation
- bacteraemia
- septicaemia
- arrhythmias

Please make sure you have answers to all your questions before you consent to the procedure. If you have any problems or queries, please contact one of the procedure team nurses on **0161 446 3446**.

How will I know if something is wrong?

Sometimes problems can occur while you have a PICC line. If you suspect something is wrong, or if you have any of the following symptoms, please contact the hospital straight away:

- if you have a temperature above 37.5°C, fever, chills or feel generally unwell, as this could be the beginning of an infection
- oozing from around your PICC
- cracks or leaks in your PICC
- pain, redness or swelling around the insertion site, pain/ discomfort in your neck or arm (on the side your PICC is placed)
- if your PICC becomes dislodged, or pulled out from its original insertion position.

If you are worried about any aspect of your PICC or its appearance, please do not hesitate to contact The Christie Hotline on **0161 446 3658**.

MRSA

Before your PICC insertion 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.

Who will care for it?

While you are in hospital, the nursing staff will look after your PICC. This involves:

- cleaning the exit site and applying a new dressing weekly
- flushing the line weekly to prevent blocking when it is not in use.

If needed, when you leave hospital, we will contact the community nurse in your area to call at your home to flush your PICC. We will also give the community nurse a letter outlining how to care for your PICC and all the equipment needed for the first flush. If you have any problems at home, please ring The Christie using the appropriate contact number at the end of this booklet.

If you have an infusor connected continuously to your PICC, the line will require flushing after it empties. For further information, see the Christie booklet 'The Baxter Infusor'.

Frequently asked questions

Can I eat and drink before having my PICC inserted?

We recommend a light diet before having your PICC inserted.

Can I have a bath or a shower and swim?

As a general rule, we encourage people with PICCs to take a shower rather than a bath because of the risk of infection if the PICC is submerged in bathwater. It is also advised that you do not swim.

Can I lead a normal social life?

Having a PICC in place should not interfere with your social life. However, having chemotherapy may mean that you do not feel like certain social activities immediately after

treatment or if your blood counts are low. Your nurse or doctor will give you more specific information.

Can I play sports?

Sports such as tennis and golf or vigorous gym exercises are discouraged. There is a risk that your PICC could become dislodged because of excessive upper body movement. However, there are many other pursuits which are acceptable. If in doubt ask your nurse or doctor.

Will my PICC affect my sex life?

Having a PICC in place should not interfere with your sex life. To minimize the risk of damage to your PICC, ensure it is secure before having sex. However, sometimes while you are feeling unwell or having cancer treatment you may lose interest in sex.

Adequate barrier contraception is essential during cancer treatment to avoid pregnancy because of the risk of damage to the baby.

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

For problems or queries about your PICC line, please contact the procedure team on:

0161 446 3446 (9am – 5pm)

Out of hours please ring The Christie Hotline.

The Christie Hotline: 0161 446 3658

Information for district nurses:

_____

had a peripherally inserted central catheter (PICC) inserted on:

_____

Please identify if it is an open-ended or clamped PICC and follow the correct procedure.

Potential PICC complications

The patient should be monitored for the following potential complications:

- **Bleeding from insertion site**
  If this occurs, apply pressure at insertion site for 5 to 10 minutes. Once settled, change the dressing. Observe the site. If the bleeding persists, call The Christie Hotline on **0161 446 3658.**

- **Bruising at insertion site**
  Related to vein trauma at insertion. Monitor for changes.

If after following the protocol (and if necessary the PICC algorithm) you have any queries or concerns about your patient's PICC, please contact the procedure team on **0161 446 3446**.

- **Infection**
  Redness at or around the PICC exit site or tracking up the PICC tract, pus, exudate or fluid at exit site, temperature above 37.5°C, shakes or shivers particularly after the PICC has been used. Contact The Christie Hotline on **0161 446 3658.**

- **PICC related thrombosis/blood**
  On the same side the PICC has been placed; discomfort/pain/oedema/ engorged veins in the arm, shoulder, neck, chest, leakage of fluid at entry site, discoloration of extremity, unexplained fever. This must be reported for immediate medical attention, an ultrasound Doppler maybe arranged to assess if a thrombosis is present.

- **Mechanical phlebitis**
  This is inflammation of the vein caused by the body's response to the catheter and may involve the inner aspect of the arm around the PICC insertion site. This may occur more commonly during the first 7 days post insertion, but may be a delayed response. Please contact the

procedure team on **0161 446 3446** (8:00am–5:00pm) or The Christie Hotline outside of working hours on **0161 446 3658.**

We advise patients to perform light arm exercises and to apply warm compresses intermittently (for example, 20 minutes at a time for 48 hours) post insertion. This will dilate the vein and encourage blood flow, and may need to be continued until the reaction settles. We also ask patients to monitor their temperature during this period, and to contact The Christie Hotline on **0161 446 3658** if abnormalities are detected.

Procedure for flushing and dressing an open ended PICC

The tip of the lumen is positioned in the superior vena cava and requires a **strict aseptic (non-touch) technique** whenever accessing or dressing the device. The end of the PICC line exits the body on the inner aspect of the upper arm.

The PICC will require a weekly flush with 10mls of sterile 0.9% saline and a dressing change at least weekly or as required. The procedure for flushing and dressing the PICC is outlined on page 12.

PICC removal

Remove dressing/adhesive securement and clean the site with 2% chlorhexidine in alcohol and allow to air dry. While removing, apply slow, intermittent traction without applying any direct pressure at the insertion site. During the removal process there is possibility that resistance may be present. This could be caused by a venous spasm. Warmth often relieves the spasm and after a brief period of time may easily be removed.

If resistance does occur the catheter must never be forcefully pulled as this could break it and lead to a section embolising in the circulatory system.

Treatment – apply warm compress to area for 20 minutes (for vasodilation and to alleviate venous spasm) and re-attempt removal. If resistance persists the catheters should not be forcibly removed. Contact the procedure team on **0161 446 3658**.

Following removal of the PICC, pressure should be applied to the site for 2–3 minutes to ensure the bleeding has stopped.

Procedure for flushing and dressing a PICC with clamp

Please ensure meticulous care is taken when changing a PICC dressing, not to pull PICC out from it's original position. Increased complications occur with shorter central catheters.

Materials required:

- Clean field i.e. plastic tray or dressing towel
- Apron
- Chlorhexidine gluconate 2% and isopropyl alcohol 70% (i.e Chloraprep® 2%)
- Steri-strips and STATLOCK/GRIPLOCK
- 2 large IV 3000 dressings (10cm x 14cm) or transparent occlusive dressing

1. Wash and dry hands thoroughly.
2. Put on apron.
3. Prepare clean field i.e. clean plastic tray with 2% chlorhexidine wipe (sanicloth) and allow to air dry, or open dressing towel.
4. Place all equipment onto the clean field, ensuring key parts are protected.

The PICC is most at risk of being pulled out when the dressing is being changed, the **PICC MUST BE SECURED** throughout the dressing change.

5. Loosen and very carefully remove the soiled dressing ensuring the PICC remains secured.
6. Wash or alcohol gel hands again and put on non-sterile gloves.
7. Clean the exit site using chlorhexidine gluconate (minimum 30 seconds) 2% and isopropyl alcohol 70% allow to air dry Chloraprep® is recommended.
8. Replace steri-strips, STATLOCK® (or other securement device) and semi-permeable IV dressing.
9. Inspect site for signs infection, thrombosis and phlebitis.

FLUSHING (When a flush only is needed, blood withdrawal is not necessary)

Equipment

- Blue tray or sterile field e.g. dressing pack
- Disposable apron
- Non-sterile gloves
- Bin

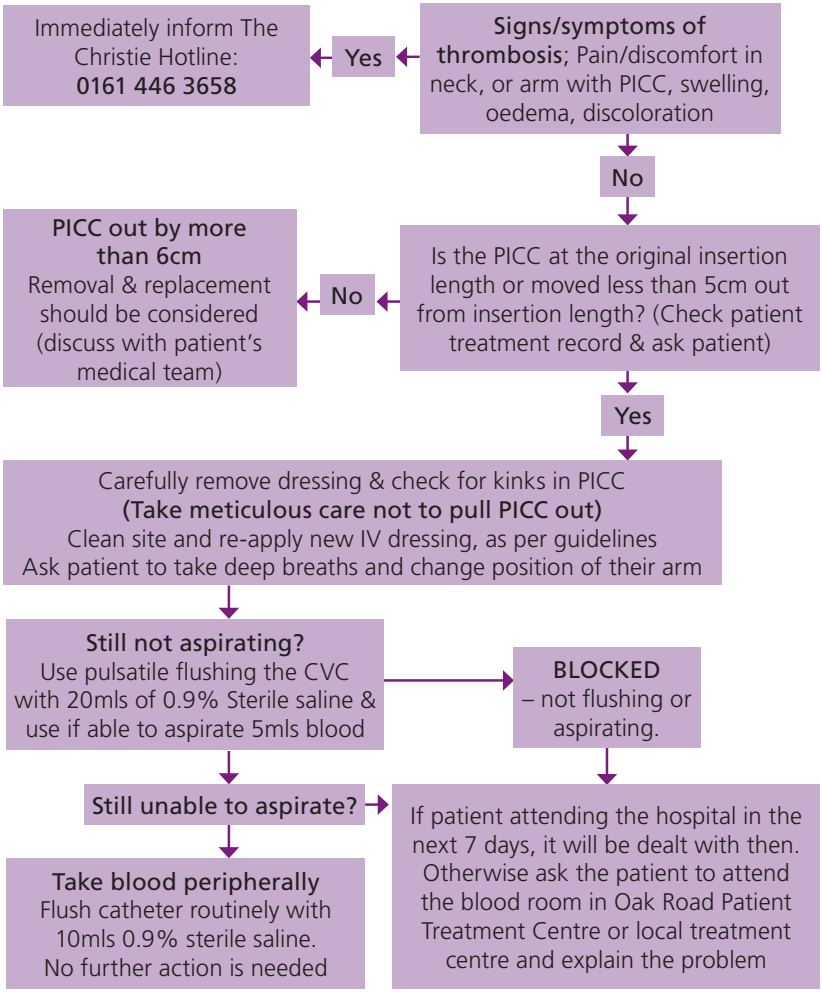
- Alcogel
- 3x 2% chlorhexidine 70% alcohol wipes e.g. sanicloth
- 1 x 10ml posiflush or 1 x 10ml luer lock syringe, 1 x 10ml saline, 1 x drawing up needle, 1 x bung

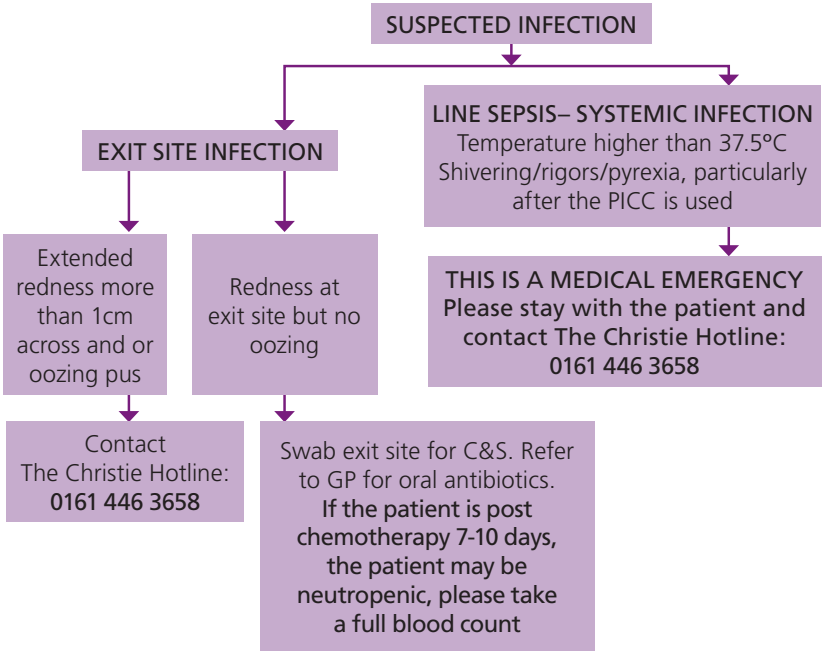
1. Clean hands with soap and water or alcogel using the six step technique. Dry.
2. Put on apron.
3. Clean blue tray using 2% chlorhexidine 70% alcohol wipe. Allow to air dry. Alternatively open sterile dressing pack.
4. Assemble equipment in the tray using an Aseptic Non Touch Technique (ANTT), protecting the key parts.
5. If not using posiflush, draw up saline and place a bung on the syringe or carefully return to packet, protecting the key part. Place in tray.
6. Clean hands and dry hands.
7. Assess sites for signs of infection or thrombosis.
8. Check the line is intact and the clamp is closed.
9. Clean and dry hands and put on non-sterile gloves.
10. Ensure the clamp is closed.
11. Remove bung and place in bin.
12. **Hold the line at all times to protect the key part.**
13. Clean the hub of the line thoroughly with 3 parts of a 2% chlorhexidine 70% alcohol wipe, for a minimum of 15 seconds with 3 parts of the wipe. Place wipe in the bin.
14. Allow hub to air dry.
15. Attach 10ml saline syringe.
16. Open clamp.
17. Flush using the push pause technique.
18. The line must be clamped as the last ml is being administered.
19. Dispose of syringe.
20. If required clean the hub with a 2% chlorhexidine 70% alcohol wipe and allow to dry.
21. Attach a clean bung to the hub.
22. Dispose of any remaining waste appropriately
23. Clean blue tray or dispose of sterile field.
24. Remove apron and gloves.
25. Clean and dry hands.
26. Complete all documentation.

PICC occlusion

For routine flushing of PICCs, aspirating blood first is **NOT** required.

If attempting to take blood samples via a PICC but it is not aspirating, follow the algorithm below:





DAMAGE TO LINE
Try to clamp above damage, to avoid air embolus & blood loss → Contact The Christie procedure team, immediately: **0161 446 3446** or The Christie Hotline out of work hours: **0161 446 3658**

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**

Contact The Christie Hotline for urgent support and specialist advice

The Christie Hotline: 0161 446 3658

Open 24 hours a day, 7 days a week

Visit the Cancer Information Centre

The Christie at Withington **0161 446 8100**
The Christie at Oldham **0161 918 7745**
The Christie at Salford **0161 918 7804**

Open Monday to Friday, 10am – 4pm.

Opening times can vary, please ring to check before making a special journey.

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The Christie Patient Information Service
December 2017 – Review December 2020

CHR/CT/070/17.01.03 Version 8