

# Trust Standard Operating Procedure

SOP for the removal of Central Venous Catheter (Short term lines), Peripherally Inserted Central Catheters (PICC) and Midlines.

Issue Date	Review Date	Version
July 2019	July 2024	3

## Purpose

To provide guidance for the removal of Central Venous Catheter (Short term lines), Peripherally Inserted Central Catheters (PICC) and Midlines

## Who should read this document?

All staff within Plymouth Hospitals NHS Trust involved in caring for patients with a Central Venous Catheter, Peripherally Inserted Central Catheter (PICC) and Midlines.

## Key Messages

Central Venous Catheters, Peripherally Inserted Central Catheters and Midlines should be removed as soon as no longer needed or where there is a suspicion of, or confirmed, infection related to the device.

This document provides a standardised procedure for the safe removal of these devices by appropriately trained staff.

Any problems or questions related to the removal of these devices should be relayed to the Vascular Access Team on 31454 or bleep 81839.

## Core accountabilities

<b>Owner</b>	Colin Fairhurst, Clinical Nurse Specialist Vascular Access
<b>Review</b>	Vascular Access Team
<b>Ratification</b>	Dr Andrew Porter, Clinical Lead Vascular Access
<b>Dissemination (Raising Awareness)</b>	Trust-wide
<b>Compliance</b>	All Staff responsible for the removal of Central Venous Catheters, Peripherally Inserted Central Catheters and Midlines.

## Links to other policies and procedures

- PHNT Central Vascular Access Guidelines
- Guidelines for the Management of Central Intravenous Catheters
- Hand Hygiene Guidelines
- Guidelines for Aseptic Technique
- Safe Disposal of Sharps Policy

## Version History

<b>V1</b>	March 2015	
<b>V2</b>	May 2016	

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request.**

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Standard Operating Procedure for the removal of Central Venous Catheter,  
Peripherally Inserted Central Catheters (PICC) and Midlines.

## 1 Introduction

The presence of Central Venous Catheters, Peripherally Inserted Central Catheters and Midlines for longer than is necessary is associated with an increased risk of catheter related bloodstream infection (CRBSI). The prompt removal of these devices greatly reduces this risk.

If the device is being removed due to a suspected CRBSI then the tip (approximately 5cm) should be cut and sent to microbiology for analysis.

## 2 Definitions

Before administering medication through a central venous catheter or midline utilising a surgical ANTT approach the user must be assessed as competent to do so and signed off as competent by a trained assessor.

## 3 Regulatory Background

Plymouth Hospitals NHS Trust Guidelines for Aseptic Technique (2012).

Department of Health (DH) (2007) Saving Lives: Reducing Infection, Delivering clean and safe care, London, DH.

Dougherty L et al (Eds) (2011) Royal Marsden Manual of Clinical Nursing Procedures (8th edition) London, Blackwell Publishing.

Royal College of Nursing (RCN) (2010) Standards for Infusion Therapy, London, RCN

## 4 Key Duties

All Practitioners must perform the task as per the guidelines within this SOP after completion of training and having been assessed as competent in the skill.

Staff must acknowledge any shortcomings in their ability and further training will be organised through their line manager. Staff requiring further training will not be able to continue with this skill until assessed as competent by a trained assessor.

## 5 Procedure to Follow

**Check clotting result of the patient before commencing this procedure.**

## Assemble equipment:

Sterile Dressing pack \* containing receptacle,

low-linting swabs, sterile gloves

Non sterile gloves

10ml syringe

Trolley/Clean tray

Appropriate hand hygiene preparation

Stitch cutter/sterile scissors

Sharps Bin

IV3000 dressing

## Action

## Rationale

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|--|---|
| 1) Decontaminate hands using alcohol rub.  |   |
| 2) Explain and discuss the procedure with the patient.   | To ensure correct patient. To ensure the patient understands the procedure and gives his/her valid consent (refer to PHNT Consent to examination or treatment policy) |
| 3) Put on a plastic apron.   | To protect clothing and reduce the risk of spreading infection  |
| 4) Wash hands thoroughly up to the elbow using liquid soap. Dry thoroughly.  | To reduce risk of cross infection   |
| 5) Clean the trolley with detergent and detergent and warm water. Wipe top and bottom shelf, and legs of trolley, or tray with detergent wipe.   | To provide a clean working surface.   |
| 6) Place all the equipment required for the procedure on the bottom of a dressing trolley.   | To maintain the top shelf as a clean working surface  |
| 7) Take the patient to the treatment room or screen the bed area.<br>Position the patient comfortably so that there is easy access to the central line without exposing the patient unduly | To allow dust and airborne organisms to settle before the sterile field and the central line is exposed.<br>Maintain patient's dignity and comfort.                   |
| 8) Take the trolley/tray to the treatment room or patient's bedside, disturbing the screens as little as possible  | To minimize airborne contamination  |

**For short term CVC's If patient's condition allows, lay patient flat in the Trendelenburg position, ie head slightly lower than feet (to prevent air entering vein on catheter removal)**

**PICCs and midlines, sit patients in bed/chair with exit site below heart level**

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| 9) Disconnect any remaining infusion   | Ensure all ports are occluded             |
| 10) Check the pack is sterile (i.e. the pack is undamaged, intact and dry. Check the expiry date) open the outer cover of the sterile pack | To ensure only sterile products are used. |

and slide the contents onto the top shelf of the trolley/tray.

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| 11) Decontaminate hands with alcohol rub  | Hand may become contaminated by handling outer packets, screens etc                             |
| 12) Open the sterile field using only the corners of the paper  | So that areas of potential contamination are kept to a minimum Creates a sterile working field. |
| 13) Check any other packs for sterility and open. Tip contents gently onto the centre of the sterile field.                           | To prepare the equipment  |
| 14) Decontaminate hands with alcohol rub.   | Hands may become contaminated by handling outer packets etc                                     |
| 15) Place hand in disposable bag, arrange contents for easy access.   | To maintain sterility of the pack   |
| 16) Apply non sterile gloves gloves and remove present dressing. Remove gloves and decontaminate hands.                               |   |
| 17) Put on sterile gloves touching only the inside wrist end..  | To maintain asepsis   |
| 18) Place sterile towel under the central line.   | To provide a sterile environment.   |
| 19) Cut and remove any skin sutures securing the catheter.  | To enable catheter to be easy removed   |
| 20) Clean the central line insertion site with a Chloraprep applicator for 30 seconds using a back and forth motion and allow to dry. |   |
| 21) For short term CVC's only, ask the patient to perform the Valsalva manoeuvre  |   |

**Valsalva Manoeuvre: The patient is asked to breathe in and then try to force air out with the mouth and nose closed (ie against a closed glottis). This increases the intrathoracic pressure so that return to the heart is reduced momentarily and the veins in the neck region become engorged**

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| 22) Hold the catheter with one hand near the point of insertion and pull firmly and gently. As the catheter exits press down firmly with a folded gauze swab. Once catheter is removed press firmly on area for approx. 5 minutes.                            | To prevent excessive bleeding & air entry |
| 23) Check catheter is intact. If the catheter has been removed due to clinical signs of infection, carefully cut off the tip with sterile scissors (Approx. 5cm) and place into a sterile container. This should correctly labelled and sent to microbiology. |   |
| 24) When bleeding has stopped cover the site  | To ensure no air entry into the site.     |

with an IV3000 dressing. This should remain in place for approx. 72 hours or until the site has healed, dressing should be labelled with the date of removal. Patient should remain as flat as possible for a short period.(Approx. 30 minutes)	Risk of air embolism for up to 72 hours following removal
25) Remove sterile gloves and dispose into a clinical waste bag.	To prevent environmental contamination.
26) All other waste should be disposed of according to disposal of waste policy	
27) The patient should be observed during and after the procedure for signs of reactions or complications. Ensure the patient is left comfortable.	To maintain patient safety and comfort.
28) Wash hands with soap and water.	To reduce the risk of spreading infection
29) Complete documentation	To maintain accurate records.
30) Clean trolley with detergent wipe	To reduce the risk of spreading infection.

**Tunnelled lines, TIVAD/Ports need specialist removal contact medical team, or bleep 81839 (Vascular Access Team) for advice**

## 6 Document Ratification Process

The design and process of review and revision of this policy will comply with The Development and Management of Formal Documents.

The review period for this document is set as default of five years from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be reviewed by the Vascular Access Team and ratified by the Medical devices committee

Non-significant amendments to this document may be made, under delegated authority from the Director, by the nominated owner. These must be ratified by the Medical devices committee.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades who are directly affected by the proposed changes.

## 7 Dissemination and Implementation

Following approval and ratification, this policy will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Formal Documents.

The document owner will be responsible for agreeing the training requirements associated with the newly ratified document with the named Medical devices

committee and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

## **8 Monitoring and Assurance**

All complications related to vascular access devices are currently reported via the Datix system and are regularly reviewed by the Infection Control Team.

Competency for the removal of Central Venous Catheters, Peripherally Inserted Central Catheters (PICC's) and Midlines can be achieved by completing ANTT training, competencies for the management of CVAD's and supervised practice and subsequent sign off by a trained assessor in the individuals own place of work.

## **9 Reference Material**

The ANTT Approach (2014) [www.ant.org](http://www.ant.org)

Dougherty L et al (Eds) (2011) *Royal Marsden Manual of Clinical Nursing Procedures (8th edition)*. London, Blackwell Publishing.

Royal College of Nursing (RCN) (2010) *Standards for Infusion Therapy*. London: RCN.

National Institute for Health and Care Excellence (2011) *Healthcare associated infections – prevention and control*. Available at: <https://www.nice.org.uk/guidance/ph36>.

Department of Health (2007) *Saving Lives: Reducing Infection, Delivering Clean and Safe Care*. London: DH.