

SOP for the Administration of medication through a central venous catheter or midline using a Surgical Aseptic Non Touch Technique

Issue Date	Review Date	Version
July 2019	July 2024	3

Purpose

To provide guidance for the appropriate administration of medication through a central vascular catheter using a Surgical Aseptic Non Touch Technique

Who should read this document?

All personnel within Plymouth Hospitals NHS Trust involved in caring for patients with a central vascular catheter.

Key Messages

Surgical Aseptic Non-Touch Technique (ANTT) should be adopted for the administration of medication through a central venous catheter in instances where key-parts and key-sites are at high risk of compromise due to the environment, invasiveness, technical difficulty, number and size of key-parts/sites and user competency (The ANTT Approach, 2014).

The decision to utilise a surgical ANTT approach is held with the user except in instances where critical management is necessary (i.e. administration of parenteral nutrition) where a surgical ANTT approach must be adopted.

This SOP is applicable to adult patients within University Hospitals Plymouth NHS Trust who have the need for medication to be administered through a central venous catheter or midline.

Core accountabilities		
Owner	Colin Fairhurst, Clinical Nurse Specialist Vascular Access	
Review	Vascular Access Team	
Ratification	Dr Andrew Porter (Clinical Lead, Vascular Access)	
Dissemination (Raising Awareness)	Trust-wide	
Compliance	All staff responsible for the administration of medication through a central venous catheter or midline.	
Links to other policies and procedures		
<ul style="list-style-type: none"> • PHNT Medicines Management Policy • 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 • Other Documents: • Royal College Nursing Standards for Infusion Therapy, 2010 		
Version History		
V1	April 2015	
V2	April 2015	
V3	July 2019	Changed from Guidance to SOP and reviewed and updated

The Trust is committed to creating a fully inclusive and accessible service. Making equality and diversity an integral part of the business will enable us to enhance the services we deliver and better meet the needs of patients and staff. We will treat people with dignity and respect, promote equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.

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Larger text, Braille and Audio versions can be made available upon
request.**

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Standard Operating Procedure (SOP)

Administration of medication through a central venous catheter using a Surgical Aseptic Non Touch Technique (ANTT)

1 Introduction

The administration of medication through a central venous catheter should be performed in such a way as to protect the key parts and sites of the devices in use (The ANTT Approach, 2014). In instances where a standard ANTT approach is unlikely to maintain the integrity of the key parts and sites then a surgical ANTT approach should be utilised.

A surgical ANTT approach **MUST** be used when administering parenteral nutrition through a central venous catheter or midline (Adult Total Parenteral Nutrition Policy, 2017).

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).

Plymouth Hospitals NHS Trust Medicines Management Policy and Standard Procedures v9.1 (05/2016)

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

(For use on general wards/departments)

Assemble equipment:

Sterile dressing pack containing receptacle, low-linting swabs, sterile gloves, sterile towel and disposable bag

Trolley/Clean Tray

Sterile gloves (if second pair is required)

2% Chlorhexidine/70% Alcohol wipe (e.g. Sani-cloth) x2 for each lumen

10ml Syringe or larger

10ml vial 0.9% Sodium Chloride or 0.9% Sodium Chloride pre-filled syringe

Sterile obturator

Medication ampoules

Detergent wipe

Sharps Bin

Appropriate hand hygiene preparation

Extra 10ml syringe (if using Citralock or Heparin)

Action	Rationale
1) Decontaminate hands thoroughly	To reduce risk of cross infection.
2) Clean the trolley/tray with detergent wipe.	To provide a clean working surface.
3) 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.
4) Check the dressing pack is sterile (i.e. the pack is, undamaged, intact and dry. Check the expiry date) open the outer cover of the sterile pack and slide the contents onto the top shelf of the trolley/tray.	To ensure only sterile products are used.
5) Decontaminate hands with a soap and water and put on apron	Hand may become contaminated by handling outer packets, screens etc.
6) 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.
7) Arrange contents for easy access maintaining asepsis, using sterile bin bag from dressing pack.	To maintain sterility of the pack.
8) Check any other packs for sterility and open, tipping their contents gently onto the centre of the sterile field.	To prepare the equipment ensuring sterility.
9) Open all ampoules, swab the tops of the vials	To ensure sterility of medication.

and allow them to dry. Place them on tray/side not on the sterile field

10) Decontaminate hands with alcohol rub

Hand may become contaminated by handling outer packets etc.

11) Put on sterile gloves touching only the inside wrist end.

To maintain asepsis.

12) Draw up medication in 10ml syringes* using a non touch technique and label syringes as in the SOP for preparing intravenous IV medicine and fluids.

Preparation of equipment. Using a 10ml syringe reduces pressure, reducing potential damage of the catheter

*a syringe smaller than 10mls *may* be used for small drug volumes where accuracy will be difficult to achieve and only if line patency has been checked and undue pressure is not applied to the plunger

13) Place labelled syringes into the sterile plastic tray, within the sterile dressing pack, maintaining asepsis and protecting 'key parts'. Sterile obturators may be used at ends of syringes. Fold corners of dressing pack over the tray to cover.

To maintain sterility

14) Remove sterile gloves and apron and wash hands

15) Ensure all vials are placed on tray/trolley Underneath the sterile dressing pack

To keep batch numbers in case patient reacts to drug.

16) Both healthcare professionals proceed to the patient with the tray and check patient's identity

To ensure the correct patient receives the medication

17) Explain procedure to patient

18) Draw curtains and position the patient comfortably so that there is easy access to the central line without exposing the patient unduly.

Maintain patient's dignity and comfort

19) Gel hands and place the sterile towel covering the tray under the patient's central line lumen to be accessed

20) Turn off and disconnect any infusion if required

21) Gel hands and put on sterile gloves touching only the inside wrist end.

To maintain asepsis.

FROM THIS POINT ONWARDS DO NOT TOUCH THE KEY PARTS e.g. ENDS OF LINES, TIPS OF SYRINGES, CONNECTORS ETC

22) Scrub the closed connector with chlorhexidine and alcohol wipe for at least 30 seconds and allow to dry before accessing

To minimise the risk of infection. Drying action eradicates micro organisms

*At this point if Citralock/Heparin is in the line this must be removed using an empty 10ml syringe before continuing any administration of IV medication

23) Remove obturators off syringes (if used). Push and turn 10ml syringe of 0.9% Normal Saline into the closed connector or attach giving set to the closed connector	To access the line.
24) Unclamp the catheter clamp	To allow introduction of the flush.
25) Administer flush at a slow rate using the push pause method	To create turbulence in order to flush line
26) Clamp line and disconnect syringe, discard syringe into sharps bin.	To maintain a closed system
27) Attach syringe containing medication and administer as described in point 25, clamping before removal of syringe	
28) Using the syringe with the prepared final flush/ pre-filled syringe, flush the catheter. As final 0.5ml is injected clamp at the same time fluid is pushed in.	To maintain patency of the catheter. To create positive pressure, to minimise the reflux of blood to the catheter and prevent clotting.
29) Remove the syringe and discard into sharps bin	To ensure safe disposal of clinical waste
30) Clean the closed connector with chlorhexidine and alcohol wipe	To ensure the line is left clean.
31) Remove sterile gloves and dispose of in a orange clinical waste bag.	To prevent environmental contamination. Orange is the recognised colour for clinical low infectious risk waste.
32) Wash and dry hands thoroughly.	To prevent cross contamination and reduce risk of latex allergy
33) The patient should be observed during and after the procedure for signs of reactions or complications. Ensure the patient is comfortable.	To maintain patient safety and comfort.
34) Complete documentation	To maintain accurate records.
35) Clean trolley with a detergent wipe	To reduce the risk of spreading infection.
36) Wash and dry hands	To reduce the risk of spreading infection.

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 administration of medications through central venous catheters or midlines can be achieved by completing ANTT Training, administration of IV medicines training and subsequent observed practice by a trained assessor within the individuals place of work.

9 Reference Material

The ANTT Approach (2014) www.ant.org

University Hospitals Plymouth NHS Trust (2017) *Adult Total Parenteral Nutrition Policy*. Plymouth: University Hospitals Plymouth NHS Trust.

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.

Department of Health (2003) *Winning Ways: Working Together to Reduce Healthcare Associated Infection in England*. London: DH.