

CENTRAL VENOUS ACCESS DEVICE POLICY

Version:	1
Date of Issue:	April 2018
Review Date:	April 2021
Applies to:	All clinical staff who care for patients with Central Venous Access Devices (CVADs) as part of their role

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DOCUMENT CONTROL

Reference	Version 1	Status Final	Author Senior Nurse for Clinical Practice
Amendments CVAD section taken out of Administering Injections policy to create stand-alone policy with associated SOPs for care of specific types of CVADs and troubleshooting			
Approving body	Clinical Governance Group	Date: March 2018	
Equality Impact Assessment	Impact Part 1	Date: April 2018	
Ratification Body	Senior Management Team	Date: April 2018	
Date of issue	April 2018		
Review date	April 2021		
Contact for review	Senior Nurse for Clinical Practice		
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1. INTRODUCTION

- 1.1 The use of central venous access devices (CVADs) & Midlines has many healthcare benefits for patients. Some patients have long term CVAD/Midlines to enable long term intravenous medication to be given regularly without the need for frequent peripheral cannulation. Many patients with CVADs have poor vasculature due to frequent long-term invasive treatments. However due to their long-term nature and position in a patient's vein, CVADs require care by staff who are specifically trained and competent to reduce the risk of infection, thrombosis or migration.
- 1.2 A 2011 point prevalence survey found that 25.2% of bloodstream infections in England are attributable to CVADs. Bloodstream infections associated with CVADs are potentially among the most dangerous complications associated with healthcare.

2. PURPOSE AND RATIONALE

- 2.1 The aim of this policy is to provide guidance for all health care practitioners responsible for the care and removal of CVADs.
- 2.2 The guidance will also reflect the differences in management of CVADs in the three main acute hospitals serving Somerset, namely, Musgrove Park Hospital (MPH), Yeovil District Hospital (YDH) and Royal United Hospital (RUH) which are detailed in Appendix A

3. POLICY STATEMENT

- 3.1 Somerset Partnership NHS Foundation Trust is committed to ensuring safe and effective clinical practice in the care of CVADs through the provision of appropriate training and competency assessment for staff to ensure safe clinical practices.
- 3.2 Due to the differences in CVAD management at the three main acute hospitals, staff must ensure they follow the patient's own care plan for management of their CVAD, which has been developed in conjunction with the referring clinician or team. If the patient does not have a valid care plan, ensure the guidance provided in Appendix A is followed for each patient dependent on the referring acute hospital.

4. DEFINITIONS

- 4.1 **Central Line** – sited centrally with the tip sitting at the entrance of the right atrium. Rarely used outside an acute setting.
- 4.2 **Hickman Line** – is a type of tunneled central line terminating in the superior vena cava (SVC). Trade name for central line.
- 4.3 **Intravenous** – within a vein

- 4.4 **PICC Line** – Peripherally (above elbow not forearm/hand) Inserted Central Catheter terminating in the SVC
- 4.5 **Mid Line** - Peripherally inserted catheter. Terminates at the mid axilla. The tip is not centrally placed.
- 4.6 **Portacath** – Implanted Venous Access Device
- 4.7 **Groshong line** - a modification of the Hickman catheter with a valve that is closed when the catheter is not in use
- 4.8 **Personal Protective Equipment (PPE)** – should be worn when all other measures are inadequate to control exposure. It protects only the wearer, while being worn and includes such items as gloves, aprons, respirators and eye goggles.

5. DUTIES AND RESPONSIBILITIES

- 5.1 The Trust Board, via the Chief Executive has overall responsibility for procedural documents and delegates responsibility as appropriate.
- 5.2 The Executive Lead is the Director of Nursing and Patient Safety with delegated responsibility to ensure this SOP is reviewed at least once every three years or sooner if national or local procedures change.
- 5.3 The Community Hospitals Best Practice Group and the District Nursing Best Practice Group, will provide assurance that the policy and relevant SOPs are being adhered too when delivering CVAD care.
- 5.4 All managers are responsible for ensuring that staff who provide care for CVADs as part of their role are aware of the policy and SOPs and that any training and competency needs are identified and addressed.
- 5.5 All staff who provide care for CVADs as part of their role are responsible for complying with the guidance set out in this document.
- 5.6 The Clinical Practice Team are responsible for liaising with the acute Trusts to discuss incidents and other issues related to CVAD care.

6. POLICY

Referral Information

- 6.1 Before accepting a patient with a CVAD onto a caseload or ward, the minimum referral details must include:
 - Reason for line insertion
 - Specific type of CVAD line (e.g. PICC)
 - Length of line from insertion site to hub
 - Any specific issues with the CVAD care

- Any escalation / TEP / DNACPR plans
- Contact details of the referring Lead Clinician

6.2 Additionally a patient specific care plan compiled by their referring clinician should be available for staff to refer to. If no care plan is available then the hospital specific guidelines detailed in Appendix A of this document should be followed in the interim until more information can be obtained from the referring clinician.

Infection Control

6.3 All care of CVADs must be undertaken using an aseptic non-touch technique. Please see the Indwelling Devices policy for further information.

6.4 When undertaking any CVAD intervention it is important to assess for possible infection (especially if patient is immunosuppressed). Undertake physiological observations and screen for sepsis using NEWS and Sepsis Screening & Action tool. Record, report and escalate care as appropriate (Be guided by any specific care plans / treatment escalation plans (TEP) if available).

6.5 Patients should be provided with safety netting advice about what to do if they are concerned they may have or be developing an infection. Refer to their specific patient care plan / treatment escalation plan (TEP) if available.

Flushing CVADs

6.6 All CVADs must be flushed weekly, (unless advised otherwise by the care plan or Appendix A), following any use, and if blood is observed in the line. They should be flushed with at least 10mls 0.9% sodium chloride (or alternative as indicated by the care plan or Appendix A) to prevent occlusion, using the push pause positive pressure technique. No syringe smaller than 10mls should be used to flush CVADs due to the risk of rupture.

6.7 If an alternative flush to 0.9% saline is indicated, by the patient's care plan or referring Trust guidelines, this must be prescribed for the patient.

Removing CVADs

6.8 A CVAD may only be removed if advised by the referring clinician. This must be in writing (including email or fax). The date the line can be removed must be established prior to removal. If the patient cannot have the line removed on the specified date, then the clinician must plan care with the patient to maintain the line (in line with the care plan) until it can be removed.

Documentation

6.9 All CVAD care must be documented in the patient's record. A copy of the CVAD Management Evaluation Record is available on the Clinical Practice intranet pages.

Cytotoxic Pump Removal

- 6.10 For disconnection and disposal of cytotoxic infusion pumps, please refer to The Standard Operating Procedure for Disconnection and Disposal of Cytotoxic Infusion Pumps

7. MONITORING COMPLIANCE AND EFFECTIVENESS

- 7.1 Complaints, incidents and feedback will be monitored by the Clinical Practice Team and fed back through the Community Hospital and District Nurse Best Practice Groups. Good practice, learning points and related issues will be discussed at the relevant Best Practice Groups and disseminated appropriately. Learning from incidents will be used to update the CVAD training.

8 TRAINING AND COMPETENCY REQUIREMENTS

- 8.1 Prior to undertaking CVAD training, staff must complete and be assessed as competent in the following training:
- Medicines Management training (eLearning and local assessment)
 - Anaphylaxis (eLearning)
 - Intravenous administration of medicines
 - Medical Devices
 - Specific intravenous infusion device (if administering IV's through CVAD)
- 8.2 CVAD training is available through the Learning and Development Department. The training includes an eLearning package of theoretical information followed by a classroom day of practical skills. This will be followed by a period of supervised practice and formal assessment of competence using the agreed Trust competency framework and documentation found on the Learning and Development intranet page under 'Competencies'.
- 8.3 Specific training will be provided for staff who will be caring for patients with an implanted venous access device. This will be on a named patient basis only. Care of these devices must not be undertaken without specific training. The training will be delivered by the referring acute hospital.

9. REFERENCES, ACKNOWLEDGEMENTS AND ASSOCIATED DOCUMENTS

9.1 References

Health Protection Agency (2012) English National Point Prevalence Survey on Healthcare Associated Infections and Antimicrobial use 2011. Preliminary data. Health Protection Agency: London

Loveday, H.P., et al (2014). epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. Journal of Hospital Infection. Vol.86 (Suppl. 1 Jan) S1-70

Royal College of Nursing, 2016. Standards for Infusion Therapy. 4th Edition

Royal Marsden Manual of Clinical Nursing Procedures (2017). 9th ed.

9.2 Cross reference to other procedural documents

- Consent and Capacity to Consent to Treatment Policy
- Healthcare (Clinical) Waste Policy
- Indwelling Devices policy
- Infection Control Policy
- Injection Policy
- Medicines Policy
- Needlestick and Contamination Injury Policy
- Record Keeping and Records Management Policy
- Syringe Driver Policy

All current policies and procedures are accessible in the policy section of the public website (on the home page, click on 'Policies and Procedures'). Trust Guidance is accessible to staff on the Trust Intranet.

10. APPENDICES

- 10.1 For the avoidance of any doubt the appendices in this policy are to constitute part of the body of this policy and shall be treated as such. This should include any relevant Clinical Audit Standards.

Appendix A: CVAD Management by Referring Trust
CVAD Standard Operating Procedure 1: Dressing and Cleaning a PICC Line
CVAD Standard Operating Procedure 2: Flushing a PICC Line
CVAD Standard Operating Procedure 3: Blood Sampling from a PICC Line
CVAD Standard Operating Procedure 4: Drug / Fluid Administration Via a CVAD
CVAD Standard Operating Procedure 5: Removal of a PICC Line
CVAD Standard Operating Procedure 6: Dressing and Cleaning A Hickman Line
CVAD Standard Operating Procedure 7: Flushing a Hickman Line
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CVAD Standard Operating Procedure 10: Care of Implanted Venous Access Port

CVAD MANAGEMENT BY REFERRING TRUST

ACTION	MPH Beacon Centre 01823 333444	RUH William Budd ward 01225 425092	YDH Maria Ormisher 01935 475122	Manufacturer recommendation
Change of Statlock device	Every week or more frequent if soiled or loose	Every week or more frequent if soiled or loose	Every week or more frequent if soiled or loose	weekly
Hickman line blood taking	Withdraw 5mls blood and discard	Flush with 10mls saline Withdraw 10mls blood and discard	Withdraw 5mls blood and discard	
Hickman line flushing (If more than one lumen each should be flushed individually)	Once within each 7 day period, with 20mls 0.9 % saline for all line types	10mls 0.9% saline followed by flush with 5mls heparinised saline after each intermittent use and on completion of continuous infusions. Twice weekly when not in use with heparinised saline	Once weekly with 10mls 0.9% saline and 2mls heparinised saline – DW Yeovil and they are happy for us to flush weekly in community	
Hickman needleless connector	Bionectors-change weekly	Bionectors- change weekly	Bionectors- change weekly	
Hickman dressing change	Weekly, unless damp or soiled	Weekly unless damp or soiled	Weekly unless damp or soiled	
PICC line flushing (Ensure correct technique)	When not in use every 7 days, 10mls of 0.9% Sodium Chloride unless bloods are taken in which case use 20mls saline	Lumens not in continuous use-flush every 7 days with minimum of 10mls of 0.9% saline using push/pause technique	When not in use every 7 days, 10mls 0.9% Sodium Chloride	
PICC line blood taking	Withdraw 5mls blood and discard	Withdraw 5ml blood and discard	Withdraw 5mls blood and discard	
PICC dressing change	Weekly unless soiled/loose/damp	Weekly unless soiled/loose/damp	Weekly unless soiled/loose/damp with IV 3000	
PICC needleless connector	Bionectors - Change weekly	CLC 2000 change weekly	Bionectors - change weekly	BD 100 uses
Cleaning ports	2% Chlorhexidine in 70% Isopropyl Alcohol wipes	2% Chlorhexidine in 70% Isopropyl Alcohol wipes	2% Chlorhexidine in 70% Isopropyl Alcohol wipes	
Skin cleansing at dressing change	Chloraprep	Chloraprep	Chloraprep	
Gloves for dressing and hub change	Sterile	Sterile	Sterile	
Gloves for flushing and blood taking	Non touch non sterile	Non touch non sterile	Sterile	

CVAD Standard Operating Procedure 1

1.1.0 DRESSING AND CLEANING A PICC LINE

1.1.1 General Principles

The dressing must be assessed and changed in the first 24 to 48 hours after insertion, to check for accumulation of blood, fluid or moisture beneath the dressing

1.1.2 To prevent infection of the catheter, PICC line insertion sites must be **redressed every 7 days**, or more frequently if the dressing becomes loose, damp, soiled or blood stained.

1.1.3 During all dressing changes, the external length of the catheter must be assessed to determine if any migration/withdrawal of the catheter has occurred. If the PICC line has migrated, follow the guidance in CVAD Standard Operating Procedure 9.

1.1.4 The Procedure

Equipment required:

Sterile Dressing pack

Sterile Nitrile examination gloves

Steri - strips (12mm x 100mm) x 5

Permeable sterile transparent dressing – IV3000

Cleaning agent 2% Chlorhexidine in 70% Isopropyl alcohol –

Chloraprep

Non- sterile gloves for removal of old dressing

Statlock device (if required)

Action No	Procedure	Rationale
1	Explain procedure to the patient	Ensure patient understands and required to obtain informed consent
2	Wash hands, and put on plastic apron	To reduce risk of infection
3	Open sterile dressing pack and prepare dressing and cleaning equipment	To reduce risk of infection
4	Place sterile dressing towel under patient's arm	To reduce risk of infection

5	Carefully remove old dressing and Steri Strips, stabilizing the line at the insertion site with fingertip pressure on the outside, 'easing' the dressing from the line, while using a "from the bottom up" technique. Avoid tugging or moving the catheter and NEVER use scissors or sharp objects near the line. Check for any signs of damage to the line and IMMEDIATELY escalate any concerns to the	Reduce risk of dislodging the catheter and maintain its integrity
6	If there is a Statlock device in situ replace the device weekly. When removing the statock ALWAYS secure the line with a steri-strip before removing the Statlock. If it is causing irritation or discomfort on removal discuss this with the patient's referring clinician	Ensures extra stability of the external catheter to prevent migration. Less frequent device changes reduce risk of impaired skin integrity.
7	Inspect the catheter exit site for signs of damage, movement / migration (of more than 2cms from original length) & infection – swelling, redness, or oozing. Notify the patient's referring clinician or team if there are any concerns. If any signs of infection are evident, assess physiological observations and screen for sepsis using NEWS and sepsis screening tool, Escalate care as appropriate (in line with any TEP)	To ensure infection is recognised and treated promptly. To identify and manage potential damage to line and concerning movement
8	Wash hands thoroughly and put on sterile nitrile examination gloves	To reduce risk of infection
9	Clean the catheter exit site with 2% chlorhexidine solution in circular movements, moving away each time from the exit site until at least 5cms in diameter has been reached. (Repeat twice and-remove use once only) allow the skin to dry for 30 seconds. NB: the initial gauze dressing should be removed after 24-48 hours following insertion and not replaced unless excess oozing is observed	To minimise risk of infection spread from a 'dirty' to a 'clean' area. To complete the decontamination process.
10	Apply new steri strips – in a "kiss" or "cross" position, but ensuring the exit site is visible at all times. Avoid ANY acute kinks in line when securing	To ensure patient comfort and secure positioning of the PICC line. To avoid ruptures of line.
11	Apply new sterile dressing – IV3000- using aseptic technique, ensuring the catheter exit site is in the middle of the dressing and the port is left uncovered for easy access.	To keep the line free from infection and secure.
12	A tubi-fast may be used to cover the PICC.	To aid patient comfort and PICC line security.
13	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.

14	Document external line length in cm, site observations, cleansing and dressing change in the patient's record and care plan.	To ensure good communication, documentation and continuity of care
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CVAD Standard Operating Procedure 2

2.1.0

FLUSHING A PICC LINE

2.1.1 The Procedure

Equipment required:

Sterile dressing pack

Sterile Nitrile examination gloves

Cleaning agent 2% Chlorhexidine in 70% Isopropyl alcohol wipes

Minimum size 10 ml syringe

10mls of 0.9% Sodium Chloride (or alternative as indicated by the patient specific care plan or referring Trust guidance)

21G needle (green) or drawing up needle

New sterile needless injection port if being used

Action No	PROCEDURE	RATIONALE
1	Explain procedure to patient	Ensure patient understands obtain informed consent
2	Inspect the catheter exit site for signs of damage, migration (of more than 2cms from original length) & infection – swelling, redness, or oozing. Notify the patient’s referring clinician or team if there are any concerns.	To identify and manage potential damage to line and concerning movement
3	Wash hands, and put on plastic apron	To reduce risk of infection
4	Open sterile dressing pack and prepare dressing and cleaning equipment	To reduce risk of infection
5	Place sterile dressing towel under patient’s arm	To reduce risk of infection
6	Draw up 10mls 0.9% Sodium Chloride (or alternative) into 10 or 20ml syringe using a green needle	To reduce risk of infection To ensure patency
7	Remove needle from syringe	To establish connection between cap an syringe

8	Put on sterile nitrile gloves and clean the needle free injection port with 2% chlorhexidine swab and allow to dry for 30 seconds	To reduce risk of infection
9	Connect syringe to the needle-free injection port using a firm twisting motion and flush using a 'push, pause' technique. On the final push, maintain positive pressure as the syringe is withdrawn from the cap NB: some needle-free injection ports already have an integral positive pressure mechanism e.g. BD Posiflow, CLC 2000	To create turbulence in order to flush the catheter effectively
10	Please follow the patient's specific care plan or hospital specific guidance In Appendix A for frequency of changing needle free injection port.	To reduce risk of infection
11	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.
12	Document procedure in the patient's record	To ensure good communication, documentation and continuity of care

CVAD Standard Operating Procedure 3

3.1.0 BLOOD SAMPLING FROM A PICC LINE

(The Venepuncture Policy must be followed when taking blood from a CVAD).

3.1.1 The Procedure

Equipment required:

Sterile dressing pack

Sterile nitrile examination gloves

1 x 20 ml luer lock syringe

1 x 21g (green) needle

20mls 0.9% sodium chloride

Cleaning agent - 2% chlorhexidine in 70% isopropyl alcohol

Vacutainer system and blood specimen tubes

1 x 10 ml syringe for removing initial 5mls of blood for discarding

New sterile needle free injection port if required

Action No	PROCEDURE	RATIONALE
1	Explain procedure to patient	Ensure patient understands and obtain informed consent
2	Wash hands, and put on plastic apron	To reduce risk of infection
3	Open sterile dressing pack and prepare dressing and cleaning equipment	To reduce risk of infection
4	Place sterile dressing towel under patient's arm	To reduce risk of infection
5	Draw up 20mls 0.9% Sodium Chloride into 20ml syringe using the green needle	To flush line post blood taking and maintain patency confirm line patency

<p>6</p>	<p>Connect the 10ml syringe and withdraw 5mls of blood then discard</p> <p>NB: samples required for blood cultures do not require the disposal of this sample as line contents are required for analysis.</p>	<p>Ensure line patency and position</p> <p>Ensure removal of any saline solution or heparin or other intravenous medications from the “dead space” that may result in incorrect blood results</p>
<p>7</p>	<p>Using the correct order of draw, attach the required Vacutainer bottles and withdraw the required samples</p>	<p>Ensuring blood sample follows correct procedures and guidelines</p>
<p>8</p>	<p>Remove the Vacutainer system, clean the port with a new sterile 2% Chlorhexidine cleansing swab</p>	<p>To reduce risk of infection</p>
<p>9</p>	<p>Following blood sampling, the PICC line MUST BE FLUSHED with 20mls 0.9% Sodium Chloride in a 20 ml syringe, using the ‘push, pause’ method</p>	<p>To create turbulence and ensure removal of all blood in the catheter and prevent occlusion</p>
<p>10</p>	<p>Replace with a new sterile needless injection port unless otherwise stated in patients own care plan or Appendix A</p>	<p>To prevent infection</p>
<p>11</p>	<p>Dispose of all clinical waste and sharps as per policy</p>	<p>To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.</p>
<p>12</p>	<p>Document procedure in the patient’s record including the name of the clinician responsible for following up the results</p>	<p>To ensure good communication, documentation and continuity of care</p>

CVAD Standard Operating Procedure 4

4.1.0 DRUG / FLUID ADMINISTRATION VIA A CVAD

4.1.1 The Procedure

Equipment Required:

Sterile dressing pack

Sterile nitrile examination gloves

1 x 10ml luer lock sterile syringe

2 x 10-20 ml luer lock sterile syringe

2 x 10ml 0.9% sodium chloride for pre and post flushing

Extra flushes and syringes for in between flushing after each medication being administered.

21g green needles for drawing up flushes and medication

Taunton and Somerset NHS Foundation Trust drug monographs for each medication being administered intravenously (IV)

Intravenous Infusion Device if required

2 x 2% chlorhexidine in 70% isopropyl alcohol cleansing wipes

Sterile needless injection port if required.

Action No	Procedure	Rationale
1	Explain procedure to patient	Ensure patient understands and required to obtain informed consent
2	Wash hands, and put on plastic apron	To reduce risk of infection
3	Open sterile dressing pack and prepare cleaning equipment , syringes and flushes	To reduce risk of infection
4	Place a sterile dressing towel under the CVAD port	To reduce risk of infection

5	Clean the needle-free port with 2% Chlorhexidine and allow to dry. Connect an empty 10ml syringe onto catheter hub with a firm twisting motion. Pull back slowly, pausing to allow catheter valve to open and blood to withdraw into the catheter. Continue to aspirate until at least 1-2mls of blood is obtained	Ensure patency of the catheter and correct placement
6	Remove the syringe and discard	To prevent risk of contamination
7	Cleanse the needle-free injection port again with a second sterile 2% Chlorhexidine wipe	To prevent risk of infection
8	Connect the syringe using a firm twisting motion to the needle-free injection port and flush the catheter line with at least 10mls 0.9% Sodium Chloride using push/pause technique. Maintain positive pressure as the syringe is removed from the hub	To create turbulence in order to flush the catheter thoroughly
9	Attach the bolus of prepared IV medication or infusion onto the port, and administer at a rate directed by the Taunton and Somerset NHS Foundation Trust drug monograph. Flush the line in between each IV medication being administered with 10mls of a compatible solution as indicated by the drug monograph	Administration of IV medications are per policy
10	On completion, a second flush of the line is required using the same method as described in point 8	To create turbulence and ensure removal of all medications in the catheter and prevent occlusion
11	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.
12	Document the procedure and any observations in the MAR chart and patient record, escalating any concerns (as clinically appropriate)	As per Medicines Policy

5.1.0

REMOVAL OF A PICC LINE OR MIDLINE

PICC Lines MUST NOT be removed until instructed by the Clinician in charge of patient care.

5.1.1 **The Procedure**

Equipment;

Sterile dressing pack

Sterile gloves

Plastic apron

Non- sterile gloves

Sterile gauze

Occlusive transparent dressing

Chlorhexidine gluconate 2% sterile aqueous solution

Action No	Procedure	Rationale
1	Explain the procedure to the patient	To ensure the patient understands the procedure and gives valid consent
2	Place patient in supine position if able, or as flat as is comfortable for the patient. Place arm at 90° angle to ease removal	For ease of removal
3	Wash hands, put on plastic apron and prepare sterile equipment	To minimise the risk of infection
4	Use non – sterile gloves to remove existing dressing and Statlock	To prepare for catheter removal
5	Open sterile dressing pack and put on sterile gloves. Place sterile towel under PICC/midline. Clean catheter exit site with Chlorhexidine Gluconate 2% sterile solution, starting at exit site and spiraling outwards until 5cms diameter has been cleaned and allow to dry for 30 seconds	To prevent contamination of the site
6	Advise the patient to breathe in, hold their breath then exhale. Use gentle firm traction to pull back on the line until completely removed from the exit site	To remove the catheter and prevent damage to vein

7	Apply pressure to the exit site for approximately 2-4 minutes with sterile gauze until haemostasis is achieved	To minimise blood loss and bruising
8	Stop if any resistance is felt and seek specialist advice	To prevent breakage of line, or damage to the patient's vein
9	Apply clean sterile gauze and an occlusive dressing and keep in place for 48 hours	To provide protection to entry site
10	Examine tip of PICC/Midline to ensure complete. The length removed should be the same as documented at insertion. If it does NOT have a groshong valve , the tip should have a straight, clean, horizontal cut. There should be no ragged edges. If this is observed contact the centre where the PICC was inserted and retain the PICC for inspection If it has a groshong valve and the valve is missing (i.e. the tip is open ended) it may have been cut. This is a surgical emergency. A tourniquet should be placed on the arm and an ambulance must be called to take the patient to an acute hospital for urgent treatment.	To ensure complete catheter has been removed If a line fracture is suspected it is a surgical emergency
11	Catheter tip will only need to be sent to Microbiology if infection is queried, requesting investigations for microscopy, culture and sensitivity. Using sterile scissors cut off approx. 5 cm from the tip and place in a sterile pot. Assess physiological observations and screen for sepsis using NEWS and sepsis screening tool. If infection is a concern, escalate care as appropriate (in line with any TEP that is in place)	To detect any infection related to the catheter and thus provide necessary treatment. (As per policy for MPH, RUH and YDH)
12	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.

<p style="text-align: center;">13</p>	<p>Ensure all details for removal are documented:</p> <ul style="list-style-type: none"> • Name of clinician making decision for removal • Reason for removal • Any problems identified during removal • Condition of insertion site (inflammation, bruising, pain, bleeding etc.) <p>If infection is suspected, document date and time tip sent to microbiology and who is Responsible for following up the patient and results. Provide patient with safety-netting advice</p>	<p>To ensure records are kept up to date Continued care of the patient</p>
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CVAD Standard Operating Procedure 6

6.1.0 DRESSING AND CLEANING A HICKMAN LINE

- 6.1.1 The dressing must be changed at 24 hours after insertion, and weekly thereafter, or when the dressing becomes damp, loose or soiled.
- 6.1.2 Entry site steri-strips must be removed after 7 days post insertion, and sutures removed 21 days post insertion or until the cuff fibroses and the surrounding catheter tissue secures the catheter in place. The sutures should only be removed within an acute hospital environment.
- 6.1.3 Hickman lines can be open-ended or valved, and have up to three lumens. Groshong catheters are valved. Open-ended catheters have a clamp on each lumen which must remain closed/clamped at all times when not in use.
- 6.1.4 During all dressing changes, the external length of the catheter must be assessed and measured to determine if migration of the catheter has occurred and to ensure the Dacron cuff is not visible.

6.1.5 The Procedure

Equipment required:

- Sterile dressing pack
- Sterile nitrile examination gloves
- Transparent semi-permeable film dressing – iv3000
- Non sterile gloves for removal of old dressing
- 2% chlorhexidine in 70% Isopropyl Alcohol cleansing solution – Chloraprep

Action No	Procedure	Rationale
1	Explain procedure to the patient	Ensure patient understands and obtain informed consent
2	Wash hands and put on plastic apron	To reduce risk of infection
3	Open sterile dressing pack and prepare dressings and cleaning equipment.	To reduce risk of infection
4	Place sterile dressing towel under exit site	To reduce risk of infection

5	Carefully remove the old dressing using a “from the bottom up” technique, whilst avoiding tugging or moving the catheter	Reduce risk of dislodging the catheter and maintain
6	NEVER use sharp objects near the line	To maintain its integrity
7	Inspect the catheter exit site for signs of damage or infection – swelling, redness, or oozing. Notify referring clinician if signs of infection are evident	To ensure infection is recognised and treated promptly & potential concerns escalated
8	Wash hands thoroughly and put on sterile Nitrile examination gloves	To reduce risk of infection
9	Clean the catheter exit site with 2% Chlorhexidine in circular movements moving away each time from the exit site until at least 5cms in diameter has been reached including the part of the catheter that is under the dressing. Repeat twice and allow the skin to dry for 30 seconds	To minimise risk of infection spread from a ‘dirty’ to a ‘clean’ area. To complete the decontamination process
10	Apply new sterile dressing – IV3000- using an aseptic technique, over the whole site. Loop the catheter if required but avoid kinking	To minimise risk of infection and provide security of the line
11	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.
12	Document external line length in cm, site observations, cleansing and dressing change in the patient’s record	To ensure good communication, documentation and continuity of care

CVAD Standard Operating Procedure 7

7.1.0 FLUSHING A HICKMAN LINE

7.1.1 The Groshong skin-tunnelled catheter does not have a clamp but has a three-position, pressure sensitive valve at the tip of the catheter.

7.1.2 Positive pressure needleless connectors should be used for open ended catheters.

7.1.3 The Procedure

Equipment required:

Sterile Nitrile examination gloves

2 x 2% Chlorhexidine in 70% Isopropyl Alcohol cleansing wipes

10ml or 20 ml syringe

10-20mls 0.9% Sodium Chloride (or alternative if

5mls Heparinised saline if required

Recommended needleless injection port if required

Sterile dressing pack

Action No	Procedure	Rationale
1	Explain procedure to patient	Ensure patient understands and obtain informed consent
2	Wash hands and put on plastic apron	To reduce risk of infection
3	Open sterile dressing pack and prepare cleaning equipment	To reduce risk of infection
3	Draw up the appropriate recommended flush or flushes (may require heparinised saline) as per patients care plan or referring Trust guidelines in Appendix A	To ensure adequate flushing within the catheter line
4	Place sterile dressing towel under line	To reduce risk of infection
5	Put on sterile gloves	To prevent cross infection
6	Clean needle-free injection port thoroughly with Chlorhexidine/ alcohol wipe. Allow port to dry for 30 seconds	To reduce risk of infection

7	Connect syringe directly onto needle free injection port using a firm twisting motion	To reduce risk of infection and ensure safety of procedure
8	Flush with push -pause action and use positive pressure technique when removing syringe after flush complete. Both lumens will need to be flushed.	To ensure adequate turbulence is created within the catheter
9	Change needless injection port as recommended by the patients care plan or referring Trust guidelines in Appendix A Remove the needle-free injection port Clean catheter hub with a new 2 % Chlorhexidine wipe Allow to dry	To minimise risk of infection and provide security of the line
10	Apply new needle-free injection port	
11	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.
12	Document care given in the patient's record	To ensure good communication, documentation and continuity of care

CVAD Standard Operating Procedure 8

BLOOD SAMPLING FROM A HICKMAN LINE

- 8.1.1 The red lumen is larger than the white so should be used for blood sampling if possible.
- 8.1.2 Drugs requiring 'levels' should be given down the white lumen, so that blood can be taken from the red lumen. Using the same lumen for giving the drug and taking blood levels can lead to misleading results.
- 8.1.3 All infusions (both lumens) via the catheter should be stopped before taking blood, otherwise results may be unreliable. A suitable period of time should be allowed between stopping infusions and withdrawal of blood samples to prevent erroneous results.
- 8.1.4 If blood sampling is difficult it may help to lie the patient down as this will encourage venous filling and reduce the possibility of damage to the vessel wall due to suction.
- 8.1.5 **Procedure**

Equipment required:

Sterile dressing pack

Sterile nitrile examination gloves

1 x 20 ml luer lock syringe

1 x 21g (green) needle

20mls 0.9% sodium chloride

Cleaning agent - 2% chlorhexidine in 70% isopropyl alcohol

Vacutainer system and blood specimen tubes

1 x 10 ml syringe for removing initial 5mls of blood for discarding

New sterile needle free injection port if required

Action No	PROCEDURE	RATIONALE
1	Explain procedure to patient	Ensure patient understands and obtain informed consent
2	Wash hands, and put on plastic apron	To reduce risk of infection
3	Open sterile dressing pack and prepare equipment	To reduce risk of infection
4	Draw up 20mls 0.9% Sodium Chloride into 20ml syringe using the green needle	To reduce risk of infection

5	Put on sterile gloves	To prevent cross infection
6	Place sterile dressing towel under the patient's arm	To reduce risk of infection
7	Clean the needle free injection port with 2 % Chlorhexidine and allow to dry for 30 seconds	To reduce the risk of infection
8	Attach the 10 ml syringe and withdraw the first 5mls of blood and discard	Ensure removal of any saline solution or heparin or other intravenous medications from the dead space that may result in obscured blood results
9	Connect the necessary Vacutainer blood sampling tubes withdraw the necessary amount of blood for testing. Ensure the correct order of withdrawal is carried out	Each vacutainer bottle requires a specified amount of blood for testing. Avoids cross contamination with mediums in the bottles.
10	Remove the Vacutainer system, clean the needle free injection port with a new sterile 2 % Chlorhexidine cleansing swab	To reduce risk of infection.
11	Following blood sampling, the line MUST BE FLUSHED with 20mls 0.9% Sodium Chloride in 20 ml syringe, using the 'push, pause' method NB: dependent on the patients specific care plan, a second flush using heparinised saline solution may also be required	To create turbulence and ensure removal of all blood in the catheter and prevent occlusion
12	Replace with a new sterile needless injection port unless otherwise stated in patients own care plan or hospital specific guidelines at Appendix A	To prevent infection
13	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.
14	Document care given in the patient's record, including the clinician who is responsible for following up the results	To ensure good communication, documentation and continuity of care

CVAD Standard Operating Procedure 9

TROUBLESHOOTING CVAD COMPLICATIONS

9.1.0 This list is not exhaustive and serves as a brief guide for actions to be taken if problems arise. A degree of clinical judgement is called for, but all incidents and/ or complications must be discussed with the referring clinician or team. It may be necessary for the patient to be referred back to the original unit for further assessment.

9.2.0 MANAGING BLOCKED CVADs

9.2.1 When it is not possible to withdraw a sample blood from a CVAD, follow the steps in the algorithm at the end of this SOP.

9.2.2 If there is resistance to flushing, the flush must **NEVER** be forced, as this can cause a fracture and extravasation.

9.2.3 If difficulties with flushing or withdrawing blood from a CVAD persist, expert advice should be sought from the patient's referring clinician or team and the patient referred back to the originator.

9.3.0 TOTALLY OCCLUDED CENTRAL CATHETER AND PERSISTENT WITHDRAWAL OCCLUSION (PWO)

9.3.1 Occluded Lines

9.3.2 Definition

A totally occluded catheter is when there is an inability to infuse/flush solutions into, or withdraw from the CVAD.

9.3.3 Causes

- Fibrin sheath formation
- Blood occlusion
- Drug therapy – e.g. Chemotherapy agents, antibiotics and lipid residues
- Catheter tip or valve pressed against the vein wall or valve causing damage
- Too large a catheter in too small a vein
- Traumatic cannulation
- Health status- malignancy, dehydration, venous compression due to tumour or metastases, sepsis, previous history of venous access device placement, previous history of thrombus

9.3.4 Preventative strategies

Adhere to recommended flushing protocols and techniques. Ensure prophylactic therapy with an anticoagulant for patients who are more at risk.

9.3.5 **Diagnosis**

Clinical signs and symptoms can often be absent in cases of catheter - related thrombus formation. In fact, by the time clinical signs are evident the thrombus is usually extensive. However the following warning signs may be good indicators of catheter thrombosis:

- Frequent infusion pump alarms
- Change in the ability to infuse or withdraw from the catheter
- Pain and/or swelling and/or limb discoloration around the chest/ neck/shoulder area
- Headache
- Dyspnoea
- Pyrexia/ febrility

9.3.6 It is helpful to assess the cause of the occlusion by taking a history of events leading up to the event. Accurate documentation of line care by nursing staff is essential in order to obtain a clear record of care and history of events. For instance, identifying when the catheter was last accessed for e.g. blood taking, the administration of a drug and if so what drug. Was the catheter flushed after use?

9.3.7 In the event of a line failing to flush or administer prescribed medication, expert advice should be sought **immediately** from the patient's referring clinician or team, and if necessary the patient referred back to the originator.

9.3.8 **Persistent withdrawal occlusion (PWO)**

Definition

Persistent Withdrawal Occlusion is a common problem associated with CVADs. It can be defined as the inability to withdraw blood back despite the fact that the catheter may be flushing/infusing well.

9.3.9 **Causes**

The most common causes are **Fibrin Sheaths/Tails**, which are attached to the catheter. During flushing this **Fibrin Tail/Sheath** moves away from the catheter tip allowing the infusion/bolus administration to be given. However when aspiration of blood is attempted, the **Fibrin Tail/Sheath** is pulled against the tip of the catheter, covering it and preventing this aspiration.

9.3.10 When Persistent Withdrawal Occlusion occurs, it is essential that the Nursing algorithm is followed closely and the patient is referred back to their referring clinician or team as there may be other possible causes for a sluggish/blocked line, which would require a different management approach.

9.3.11 When suspecting persistent withdrawal occlusion staff must follow the simple advice in the algorithm at the end of this SOP. Expert advice should also be sought from the patient's referring clinician or team.

9.3.12 **Diagnosis**

Carry out the following interventions:

- Check for kinks or constriction on the line
- Move patient's arm, shoulder, and head. Change their position
- Attempt to aspirate blood clot (see below)
- If the blockage is known or thought to be due to a clot, aspiration can be attempted as small clots can be dislodged. This should be carried out with heparinised saline by competent staff (NB the heparinised saline must be prescribed)
- Urokinase may be used to unblock a CVAD in an acute setting

9.3.13 **NB:** under no circumstance should an attempt be made to force fluid into the line as this may result in the clot being forced into the circulation resulting in cerebrovascular or pulmonary embolism

9.4.0 **ASPIRATION DIFFICULTIES**

Carry out the following interventions:

- Check for kinks or constrictions on the line
- Get patient to move their arm, shoulder and head, change their position
- Following an attempt at gentle flushing, where **no** resistance is felt, flush vigorously with 10ml of 0.9% sodium chloride. If resistance to infusion is felt check for signs of extravasation
- Seek advice from the referring clinician or team

9.5.0 **BLEED-BACK INTO THE LINE**

Carryout the following interventions:

- Flush line and review frequency of flushing
- Ensure line is kept clamped (if appropriate)
- Ensure all flushes end with positive pressure

9.6.0 **CATHETER DAMAGE**

Seek urgent advice from the referring clinician or team. If the split is high then the catheter will need to be removed by medical staff. PICC/ Midlines can be repaired if the split is between the insertion site and the hub. A check CXR may be required to make sure the shortening ensures that the line is still in a suitable position for treatment.

Carry out the following interventions:

- STOP any infusion
- Determine site of damage
- If possible clamp the catheter using non-toothed forceps and gauze to protect the line, proximal to damage

9.7.0 DISPLACEMENT

Carry out the following interventions:

- There is a risk that the line may become partially or completely displaced. This will be indicated by: -
 - Obvious line removal
 - Detectable lengthening of the external part of the line by 2cms or more from original measurement or visibility of the cuff
 - Difficulty aspirating or infusing fluids
 - Local pain swelling / pain on administration of fluids

9.7.1 Partial displacement

Carry out the following interventions:

- If the catheter is partially displaced there is a risk of fluid / drug extravasation
- Seek IMMEDIATE advice from the referring clinician or team as well as following any medicines management guidelines about the specific drug being administered

9.7.2 Total removal

Carry out the following interventions:

- If the catheter falls out completely apply pressure dressing and seek immediate advice from the referring clinician or team.

9.8.0 AIR EMBOLUS (Hickman lines only)

Carry out the following interventions:

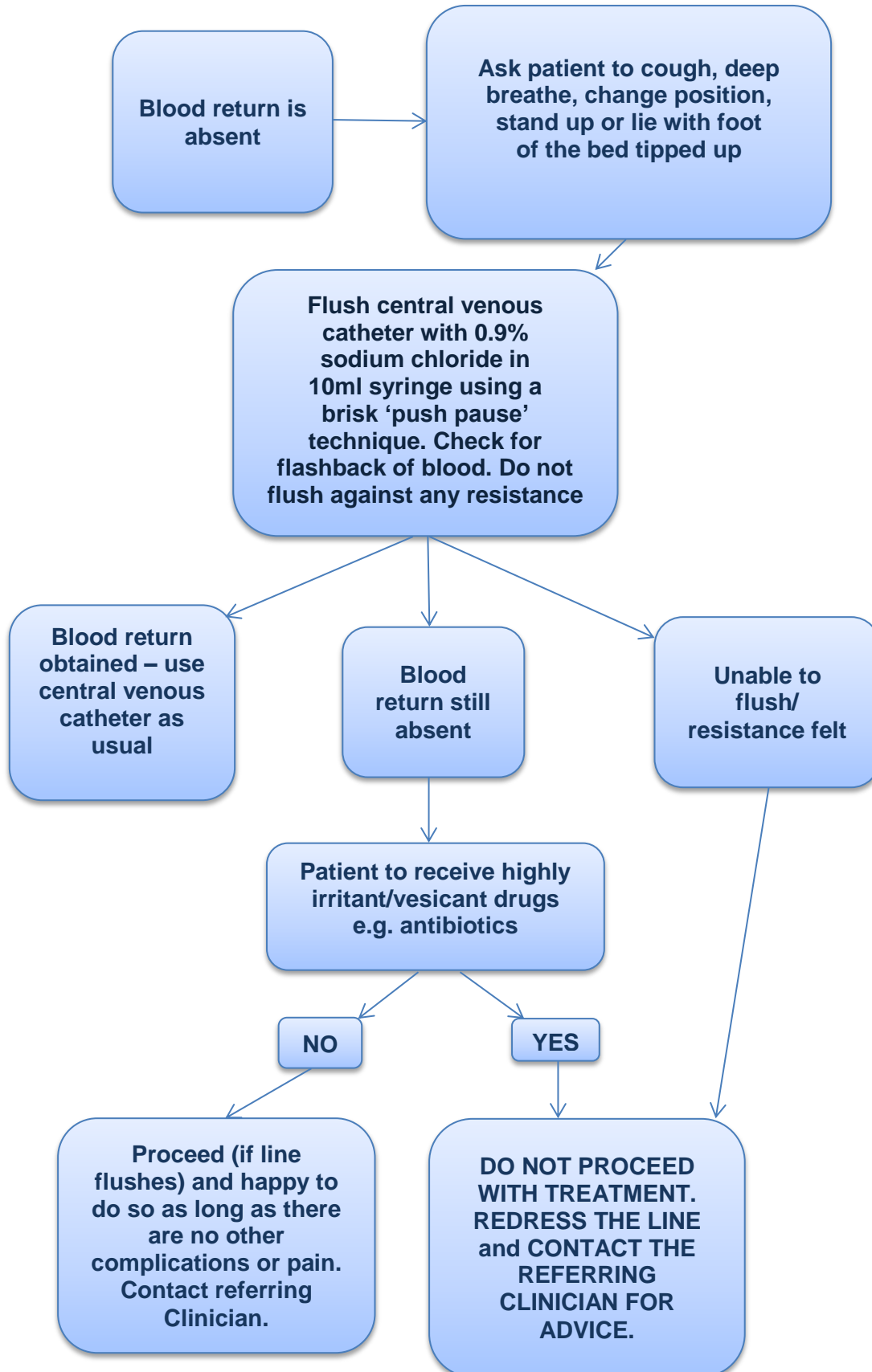
- Lie patient head down and administer emergency oxygen if required (does not need prescription if embolus is suspected)
- Clamp catheter using non-toothed forceps and gauze to protect line, proximal to damage
- Attempt to aspirate as much air as possible
- Call 999
- Ensure injection caps are correctly fitted
- Ensure connections are not loose
- Check catheter is not damaged, e.g. holes or splits

9.9.0 FLUID LEAKAGE FROM AROUND CATHETER EXIT SITE

Carry out the following interventions:

- Check for catheter damage, e.g. punctured by suture needle, trocar, scalpel, scissors, ruptured if occluded
- Seek immediate advice from the referring clinician or team

ALGORITHM FOR PERSISTENT WITHDRAWAL OCCLUSION



Adapted From Standards for Infusion Therapy, RCN 2016

CARE OF IMPLANTED VENOUS ACCESS PORT

10.1.0 General principles

- 10.1.1 Care of an implanted venous access port is patient specific, and training is provided only for the named patients with these ports in situ. A competency assessment for this specific device will not be required as it is not a high risk procedure, providing those undertaking the care and management of the venous access port have previously undertaken training and assessment in Intravenous Administration and Management of CVADs. An implanted venous access device may also be known as a Port-a-cath.
- 10.1.2 Implanted ports are used for long term venous access and are implanted subcutaneously under surgical conditions. **The port must not be used for venous blood sampling.**
- 10.1.3 The device is comprised of two components; a reservoir with a self sealing septum which is attached to a silicone catheter. This can be either open ended or have a Groshong valve. The port is accessed by piercing the skin with a needle into the septum of the port reservoir, which when removed, allows the septum to seal it itself. The ports are generally inserted into the chest wall. They require minimal care of the site as the skin is intact. When not in use they require **monthly** flushing with heparinised saline. The risk of infection is low and they allow minimal interference with activities of daily living, such as bathing.
- 10.1.4 Only Huber point (non-coring) 'Gripper' needles must be used to access an implanted venous access port to prevent coring of the silicone septum. Needle length needs to be verified correct for portal/patient; if too long, needle and/or portal may be damaged at insertion; if too short, needle may not completely pierce portal septum, and medication may be delivered into surrounding tissue and/or needle may be blocked. Selection of needle length is dependent on patient BMI and depth of insertion. This should be part of the patient's clinical management plan provided by the referring clinician.
- 10.1.5 The disadvantage of these devices is that when access to the port is required, it can cause discomfort for the patient as the skin is pierced with the needle. This discomfort can be overcome by using a topical anaesthetic gel (which must be prescribed).
- 10.1.6 The potential problems that can occur are:
- The needle can become dislodged during administration causing extravasation, or misplaced during insertion causing infiltration into the surrounding tissue.
 - Difficulty in aspirating blood.

10.2.0 Maintenance of the Implanted Port

- 10.2.1 Patients may be discharged home with continuous intravenous therapy via the implanted port in progress. The non - coring needle (Huber) is held in place with a transparent occlusive dressing, to maintain a barrier and prevent the needle

from moving. This may already be in place at the time of referral to Trust services. This must be confirmed at time of handover.

- 10.2.2 A needle and giving-set must be changed every 7 days, if treatment is continuous.
- 10.2.3 Following discontinuation of any treatment, the port must be flushed with 20mls 0.9% sodium chloride followed by heparinised saline to prevent clot formation. The port must then be maintained and flushed with heparinised saline on a four weekly basis when it is not in use for administration of medication. Please refer to each hospital care plan for amounts and strengths of heparinised saline solution (Appendix A).The heparinised saline must be prescribed.
- 10.2.4 When not in use, the site does not required to be dressed routinely as the port is buried beneath the skin. Occasionally following removal of the needle there may be a small amount of blood present, and a small temporary dressing may be required.
- 10.2.5 Regular assessment of the port is required to check for signs of infection/infiltration or extravasation during and following treatment.
- 10.2.6 The management of an implanted port is similar to that of any central line, and therefore asepsis must be maintained for any procedure involving the port.

10.3.0 Procedure for Removal of Needle from the Port

10.3.1 For disconnection and disposal of cytotoxic waste please refer to The specific Standard Operating procedure for this.

10.3.2 Equipment required

- Sterile Dressing pack
- Sharps box
- 3 x 10 ml syringe
- 2 x 21 g needle
- 2 x 2% Chlorhexidine in 70% Isopropyl Alcohol cleansing wipes
- 20mls 0.9% sodium chloride
- Heparinised saline (please see patient specific care plan for strength and amount)
- Self-adhesive dressing if required
- Apron
- 2 pairs gloves, one sterile and one non-sterile

Action No	Procedure	Rationale
1	Explain procedure to patient	To ensure the patient understands the procedure and gives valid consent
2	Wash hands and prepare equipment	To minimise contamination
3	Put on non-sterile gloves and plastic apron	To minimise risk of contamination

4	Disconnect and dispose of waste and pump (if used) as per policy	To follow guidelines and prevent risk from spillage or contamination
5	Remove dressing carefully, keeping Huber needle in place	
6	Check site for any redness or swelling or pain	Signs of developing infection
7	Discard gloves and apron as above	As above
8	Wash hands thoroughly	As per infection, prevention and control, hand hygiene.
10	Put on apron, sterile gloves, open dressing pack and prepare equipment	To minimise contamination
11	Draw up 0.9% sodium chloride using two 10ml syringes and green needle	Used to check positioning of needle and patency of port and to flush reservoir ensure the drug has been fully administered.
12	Clean end of needleless connector connected to Huber needle with 2% Chlorhexidine in 70% Isopropyl Alcohol cleansing wipes and allow to dry	To minimise risk of contamination
13	Connect syringe to needleless connector	Needles are not to be used, therefore risking damage to the catheter
14	Maintain stability of port with forefinger and index finger whilst flushing	To ensure port remains stable and the needle does not move
15	Draw back on syringe to check for return of blood	To check the needle is in the correct position and that the port is patent
16	Flush the port with 20 ml of 0.9% saline observing for swelling or complaints of pain.	To check for patency and correct positioning and to flush through remaining medication that has accumulated in the reservoir
17	Draw up heparinised saline (ensure this is done after flushing with the saline to prevent mix up of solutions) Please refer to patient specific care plan for strength and amount	This assists in maintaining the patency of the port and catheter over a period of time, by preventing formation of clots
18	Using a pulsating push/ pause technique administer heparinised saline finishing with positive end pressure before removing the syringe	By finishing with positive pressure this prevents backflow of blood and possible formation of a clot
19	Discard of syringe into cytotoxic sharps waste	As per Healthcare waste (Clinical Waste) policy

20	Pressing down either side of the port with two fingers. Withdraw the needle using a steady traction, discard into cytotoxic sharps waste immediately	To support the port whilst removing the needle To prevent trauma to the skin and reduce the risk of needlestick injury as per policy
21	If there is any resistance or inability to flush, contact the patient's hospital where treatment is being delivered and seek advice.	To prevent injury to the patient or damage to the port. do not try to unblock the port, always obtain guidance
22	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff
23	Document care given in the patient's record	To ensure good communication, documentation and continuity of care

10.4.0 Procedure for insertion of non – coring needle (Huber) and for monthly maintenance of patency of port and catheter

10.4.1 The insertion of the non – coring needle (Huber) must be performed by a Registered Nurse trained and competent in the care and management of an implanted venous access port. This procedure is to be carried out every 4 weeks when the port is not in use.

10.4.2 Equipment Required

Dressing pack
Sterile gloves
Non – coring needle (Huber)*
Chlorhexidine 2% w/v sterile aqueous solution
1x 10 ml syringes
1x 21 gauge needles
Heparinised saline, (please see patient specific care plan for strength and amount)
Local anaesthetic cream, especially if the site is tender or if the port is newly implanted (this must be prescribed).

*A straight non - coring needle or an angled needle with integral extension set maybe used, if so this will need to be flushed to prime the needle.

Action No	Procedure	Rationale
1	Explain the procedure to the patient	To ensure the patient understands the procedure and gives valid consent

2	Apply local anaesthetic cream (if required) approx. 30 – 60 minutes before procedure (Ensure cream is prescribed)	To reduce the feeling of pain on needle insertion
3	Ensure the patient is comfortable	To aid comfort and allow access to the port
4	Wash hands and put on plastic apron	To prevent contamination
5	Locate the port and identify the septum, assess the depth of the port and the thickness of the skin	In order to select the correct length of needle
6	Choose an appropriate sizes Huber needle (gauge and length)	To prevent damage to the port, accidental infiltration of heparinised saline into surrounding tissue and patient discomfort
7	Wash hands again as per policy	To prevent contamination
8	Open dressing pack using non – touch technique	To prevent contamination
9	open sterile items onto field, again using non touch technique	To reduce risk of contamination and to prevent interruptions delaying the process
10	Clean hands and put on sterile gloves	To minimise risk of contamination
11	Using Chlorhexidine 2% clean the skin over the port, using in a spiral motion, inside to outside. Allow to dry	To minimise risk of contamination and destroy skin flora
12	Draw up heparinised saline into the 10 ml syringe using a green needle	Used to ensure patency is maintained over a 4 week period
13	Flush the needle (and if using, prime the extension line) with the heparinised saline and expel any air	To check for patency of needle and set and to prevent injection of air
14	Stabilise the port between forefinger and index finger with the non-dominant hand. Holding the needle in the dominant hand, insert the needle into the middle of the port septum	To ensure the port is stabilised and does not move when needle is inserted
15	Flush using a pulsating push/ pause technique administer heparinised saline finishing with positive end	This technique helps maintain patency and prevention of clot formation. the positive end pressure prevents backflow of blood
16	Pressing down either side of the port with two fingers withdraw the needle using a	To support the port to prevent it from moving
17	Dispose of all clinical waste and sharps as per policy	To ensure safe disposal in the correct containers and avoid laceration or injury of other staff.
18	Document care given in the patient's record	To ensure good communication, documentation and continuity of care

10.5.0 COMPLICATIONS

10.5.1 If there are any concerns at any time, please contact the specialist unit in charge of the patient's care.

10.5.2 Needle Dislodgement

Remove needle as detailed above and arrange for another to be inserted.

10.5.3 Extravasation of cytotoxic IV medication

Stop the infusion; contact the patient's specialist unit.

10.5.4 Persistent withdrawal occlusion when flushing

- Confirm the needle has not dislodged
- Check for kinks / clamps still closed on the extension set
- Request the patient to change position
- Contact the patient's specialist unit as a clot formation may have occurred

10.5.5 Blockage

The patient must be referred back to their specialist unit as there may be other possible causes for a sluggish/blocked line, which would require a different management approach.

Under no circumstances should an attempt be made to force fluid into a venous access port. This may result in a clot being forced into the patient's circulation potentially causing an embolism to occur.

10.5.6 Port Leak

May occur if a forceful flush is attempted when the line is blocked, or if the wrong type of needle is repeatedly used damaging the diaphragm. Diagnosis of this will need to be made at the patient's specialist unit.

10.5.7 Suspected localised infection around the port

Clean and dress the area if required, and contact the referring specialist unit for advice. If able, take bloods from the patient for inflammatory markers. Undertake full set of physiological observations & assess for potential sepsis using NEWS and Sepsis Screening & Action Pathway, escalate any concerns as clinically appropriate with consideration to any treatment escalation plan (TEP) that the patient may have in place.