

# ST.LUKE'S GENERAL HOSPITAL KILKENNY

Grúpa Ospidéal  
Oirthear na hÉireann



Ireland East  
HOSPITAL GROUP



Feidhmeannas Seirbhíse Sláinte  
Health Service Executive

## Policy for the Care and Maintenance of Peripherally Inserted Central Catheter (PICC) In Adult Patients

|                                  |                     |  |  |
|----------------------------------|---------------------|--|--|
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## **Acknowledgements**

We wish to acknowledge the University Hospital Waterford Policy for the Care and Maintenance of Peripherally Inserted Central Catheter Long Term Central Venous Access Devices in Adult Patients which guided and supported the development of this Policy.

## **1 Policy Statement**

- 1.1 St Luke's General Hospital Carlow-Kilkenny is committed to ensuring that patients who have a Peripherally Inserted Central Catheter PICC Central Venous Access Device (CVAD) receive safe and optimum care.

## **2 Purpose**

- 2.1 To provide clear guidance for staff involved in the care and maintenance of PICC lines.
- 2.2 To minimize complications associated with the management of long term PICC Central Venous Access Devices.

## **3 Scope**

- 3.1 All Registered Nurses, Registered Midwives, Registered Medical Practitioners and Radiographers employed in St. Luke's General Hospital, Kilkenny who are caring for adult patients with PICC lines.
- 3.2 This guideline does not apply to Paediatric Patients. Refer to Paediatric Guidelines Crumlin Shared Care Policies.

## **4 Legislation/ Other Related Policies**

This document should be read in conjunction with the following regulatory, professional and legislative documents and other key reference documents.

### **Regulatory Documents:**

- 4.1 Code of Professional Conduct and Ethics for Registered Nurses and Registered Midwives (Nursing and Midwifery Board of Ireland, 2014).

- 4.2 Practice Standards for Midwives (Nursing and Midwifery Board of Ireland, 2015)
- 4.3 Recording Clinical Practice Guidance to Nurses and Midwives (Nursing and Midwifery Board of Ireland, 2002)
- 4.4 Guidance to Nurses and Midwives on Medication Management (An Bord Altranais, 2007)
- 4.5 Sepsis Management: National Clinical Guideline No.6 (National Clinical Effectiveness Committee, 2014)

**Professional Documents:**

- 4.6 Health Service Executive Hospital Group South East Network Waterford, Wexford, Carlow/Kilkenny and South Tipperary Infection Prevention & Control Policy Manual for Acute Hospitals including Standard Precautions, Aseptic Technique, Hand Hygiene, PPE and Decontamination Policy.
- 4.7 HSE Code of Practice for Healthcare Records Management (2010) Abbreviations.
- 4.8 HSE National Health Care Records Management Advisory Group (2011) HSE Standards and Recommended Practices for Healthcare Records Management.
- 4.9 Health Service Executive, National Consent Advisory Group (2013) National Consent Policy. Dublin.
- 4.10 Health Service Executive/SLGH Policy for the Segregation and Disposal of Waste (most recent edition).
- 4.11 Policy for the Safe Use, Handling and Disposal of Sharps and Sharps containers (most recent)
- 4.12 SLGH Policy for the Administration of Intravenous Medicinal Preparations by Registered Nurses & Registered Midwives (SLGH, 2017)

**Online Resources:**

- 4.13 Dougherty, L. and Lister, S. (2015) The Royal Marsden Manual of Clinical Nursing Procedures. Chapter 14: Vascular Access Devices: Insertion and Management. 9th Edition  
<http://www.rmmonline.co.uk/>

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## 5 Glossary of Terms/Definitions/Abbreviations

### 5.1 ANTT Aseptic non-touch technique

A method used to prevent contamination of susceptible sites by micro-organisms that could cause infection, achieved by ensuring that only sterile equipment and fluids are used and the parts of components that should remain sterile, e.g. the tip of intravenous connectors, are not touched or allowed to come into contact with non-sterile surfaces.

### 5.2 Peripherally Inserted Central Venous Catheter (PICC)

A single, double or triple lumen central venous access device inserted by cannulation of a peripheral vein in the arm (the cephalic, basilic or median vein ) and which terminates in the central venous circulation (Gabriel et al. 2005).

### 5.3 Push-Pause Technique

A method of flushing central venous access devices using a pulsating flushing technique which creates turbulence within the lumen of the catheter, thereby decreasing the risk of fibrin and platelets becoming adhered to the internal walls of the device and minimising the risk of occlusion (Fey 2003). Using a compatible flush preparation, flush the catheter using the push-pause technique, finishing with a positive pressure. Positive pressure flushing means continuing to simultaneously flush as the syringe is removed from the end connector i.e. the pressure of your thumb remains on the plunger as the syringe is removed from the end connector.

### 5.4 Trendelenberg Position

A head position that is achieved by tilting the end of the bed by an angle of 10°-30° degrees to increase the pressure in the large veins above that of atmospheric pressure, which reduces the risk of aspirating air into the venous circulation (Ingram and Edwards 2006).

## Abbreviations

|      |  |
|------|--|
| ANTT | Aseptic non-touch technique            |
| CVAD | Central Venous Access Devices          |
| CVC  | Central Venous Catheter                |
| IV   | Intravenous                            |
| PICC | Peripherally Inserted Central Catheter |
| PPE  | Personal Protective Equipment          |
| PWO  | Persistent Withdrawal Occlusion        |
| RGN  | Registered General Nurse               |
| TPN  | Total Parenteral Nutrition             |
| SLGH | St. Luke's General Hospital            |
| WHO  | World Health Organisation              |
|      |  |

## **6 Roles and Responsibilities**

6.1 It is the responsibility of all Registered Nurses, Registered Midwives, Registered Medical Practitioners and Radiographers employed in St Luke's General Hospital Kilkenny to read and comply with this policy.

### **6.2 Persons Authorised to Access PICCs:**

6.2.1 A Registered Nurse/Registered Midwife who is in possession of a Certificate of Competence in the Administration of Intravenous Mediations.

6.2.2 A Registered Nurse/Registered Midwife who has received instruction and is competent in accessing PICCs.

6.2.3 A Registered Medical Practitioner who has been instructed and is competent in accessing PICCs.

6.2.4 A Radiographer who has been instructed and is competent in accessing PICCs.



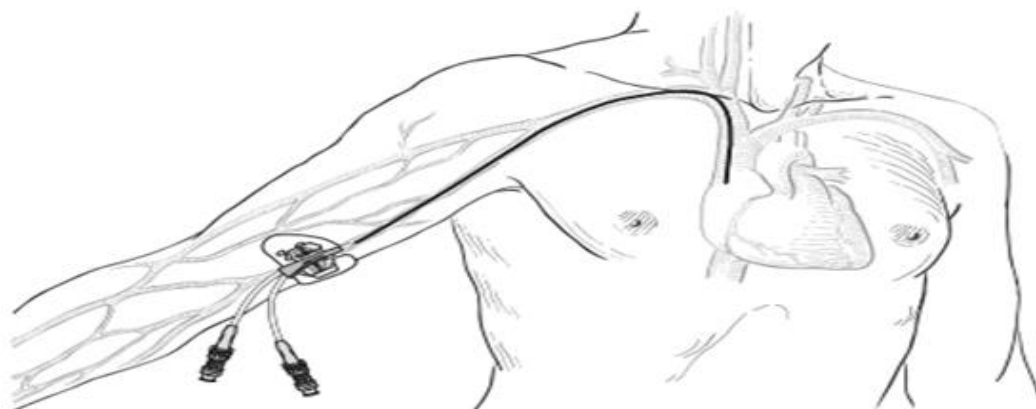
## 7 Procedure

### 7.1 Peripherally Inserted Central Catheter (PICC)

7.1.1 A peripherally inserted central catheter (PICC or PIC line) is a form of intravenous access that can be used for a prolonged period of time (e.g. for long chemotherapy regimens, extended antibiotic therapy, or total parenteral nutrition).

The catheter that enters the body through the skin (percutaneously) at a peripheral vein in the upper arm (the cephalic, basilic or median vein) and is threaded into the superior vena cava above the right atrium and stays in place (dwells within the veins) for days, weeks or months depending on use.

**Figure 2: Peripherally inserted central catheter (PICC)**



7.1.2 The PICC Service in SLGH inserts the Bard PowerPICC SOLO Catheters which have the following features:

- Soft , medical grade polyurethane
- Proximal valve
- Radiopaque catheter body
- Depth markings
- StatLock catheter stabilization device compatible
- Power injection capability
- CVP monitoring



7.1.3 A PICC can be either open ended or valved. A valved PICC has a three-way valve which can be located at the distal or proximal end of the catheter to prevent bleed-back into the catheter. The PowerPICC SOLO catheter valve controls the flow of fluids to provide a clamp free infusion therapy. Positive pressure into the catheter (gravity, pump, and syringe) will open the valve, allowing fluid infusion. When negative pressure (aspiration) is applied, the valve opens allowing for the withdrawal of blood into the syringe. A non-valved catheter will have a clamp in situ.

7.1.4 PICCs may have single, dual or triple lumens and each lumen is separate along the full length of the line and should be treated as two separate catheters when flushing.



## **7.2 Central venous access devices (CVADs) are permitted to be used for:**

1. Blood sampling
2. Administration of IV fluids and medications
3. Administration of parenteral nutrition
4. Administration of blood product
4. Dye studies
5. Contrast enhanced computed tomography

*For the purpose of these guidelines it should be noted that all devices used are needle free intra vascular connectors.*

## **7.3 Procedure for Flushing a PICC**

### **7.3.1 Purpose**

- To maintain catheter patency
- The flushing of these lines is paramount to help prevent vascular thrombosis, microbial adherence and catheter related blood stream infection (Ignatov et al 2010).

### **7.3.2 Flushing a PICC**

7.3.2.1 The PICC needs to be flushed before (except if taking blood samples from the line) and after every use, or at least every seven days to maintain patency when not in use.

7.3.2.2 Syringe size must be 10mL or larger to flush a PICC line. Using a smaller syringe size creates greater pressure and may contribute to catheter rupture (Bishop et al. 2007, Douglas et al. 2009, Dougherty 2011, Gabriel 2011, Dougherty & Lister 2011).

7.3.2.3 Flush the PICC with a minimum of 10mL of 0.9% Sodium Chloride, using the 'push pause' or 'stop start' method (injecting 1mL at a time to create turbulent flow) and finishing with a positive pressure. The turbulence created will cleanse the internal lumen of the catheter more efficiently. Positive pressure flushing means continuing to simultaneously flush as the syringe is removed from the end connector i.e. the pressure of your thumb remains on the plunger as the syringe is slowly removed from the end needless connector while injecting the last 0.5mL of saline.

7.3.2.4 A second nurse should independently check the 0.9% sodium chloride flush.

7.3.2.5 Check patient's identity prior to administering 0.9% sodium chloride flush.

7.3.2.6 Use before and after each administration of intravenous medications or IV fluids; administration of parenteral nutrition, administration of blood and blood products; intermittent intravenous therapy.

7.3.2.7 Flush PICC with at least 20mL 0.9% Sodium Chloride after blood sampling.

7.3.2.8 Use for device maintenance when not in use.

7.3.2.9 Use for device maintenance when not in use.

7.3.2.10 If resistance is met when flushing, no further attempts should be made. Further flushing could result in catheter rupture with possible embolization. Refer to section 7.8 for clearing occluded catheters.

7.3.2.11 Use aseptic technique whenever the catheter lumen is opened or connected to other devices.

7.3.2.12 Needle free injection caps must be changed weekly.

### **7.3.3 Locking a PICC**

If it is necessary to lock a PICC the following recommendations should be considered by the clinician:

7.3.3.1 Locking involves instilling a solution to prevent occlusion when the device is not in use.

7.3.3.2 When catheter is maintained in accordance with the above flushing procedure, the PowerPICC SOLO catheter does not require the use of heparinised saline to lock the catheter lumens. Exception: **Oncology and Haematology patients Refer to section 7.3.4**

**Note If a patient is admitted with a Non Valved (Clamped) PICC the line will need to be flushed with 0.9% Sodium chloride and then lock with 2mL of heparin sodium, (Heparin 100 international units per 1mL) after each use.**

7.3.3.3 There is limited information concerning the most appropriate solution to lock a catheter. Heparinised saline has been used primarily due to the antithrombotic properties of heparin. However, complications such as heparin-induced thrombocytopenia, altered coagulation studies and bleeding have been reported, particularly if other general anticoagulation therapy is administered (Sona et al. 2012). Additionally, heparin is incompatible with certain substances in solution e.g. gentamicin sulphate (Refer to BNF).

7.3.3.4 Heparinised saline is used only when necessary and in the lowest concentration possible (Registered Nurses' Association of Ontario 2008).

- 7.3.3.5 Heparinised saline should be prescribed on the patient's Medication Chart except when administered by a medical practitioner as part of a procedure.
- 7.3.3.6 A second nurse should independently check the heparinised saline if being administered by a nurse.
- 7.3.3.7 Check patient's identity prior to administering heparinised saline.

7.3.4 Flushing and Locking a PICC with Heparin (Oncology and Haematology Patients **only**)

| Type of CVAD | How to Flush the PICC   |   |
|--------------|---|---|
|              | Lines Currently in Use  | Lines NOT Currently in Use  |
| PICC**       | <p><b>Oncology and Haematology Patients:</b></p> <p>Flush after each use with 10mL 0.9% sodium chloride.</p> <p>Flush with 20mL 0.9% sodium chloride after blood sampling.</p> <p>Flush each lumen of the catheter each time.</p> | <p><b>Oncology and Haematology Patients:</b></p> <p><b>Every week</b>, flush each lumen with 10mL 0.9% sodium chloride followed by <b>2mL of heparin sodium, (Heparin 100 international units per 1mL) as a lock in each lumen.</b></p> |

7.3.5 **Equipment required**


- Disinfect a plastic tray with integrated sharps container with a chlorine wipe
- 1 pair of non-sterile gloves
- 2% chlorhexidine gluconate in isopropyl alcohol 70% wipes (Clinell green) (two for each lumen).
- Pre-filled 0.9% sodium chloride syringe (one for each lumen).
- 2mL heparin sodium 100 international units/ml IV (where required)

## Procedure for Flushing a PICC

For information relating to the ANTT recommendations for the Central IV Medication Administration, refer to appendix I or the hospital Aseptic technique policy


|        | <b>Action</b>  | <b>Rationale</b>   |
|--------|--|--|
| 7.3.6  | <p>Identify the patient.<br/>Check patient's name, date of birth and hospital number against the patient's identification bracelet.</p> <p>In an out-patient situation, ascertain the patient's identity by verifying the name, date of birth and address.</p> | <p>To provide positive identification of patients during all stages of clinical treatment, minimising related medical errors and patient harm.</p> <p>SLGH Patient Identification Policy (most up to date)</p> |
| 7.3.7  | Explain and discuss the procedure with the patient.  | To ensure the patient understands the procedure.   |
| 7.3.8  | Check if the patient has any allergies. If chlorhexidine sensitive use a 70% isopropyl alcohol swab.   |  |
| 7.3.9  | Clean hands with alcohol hand rub.   | To reduce risk of infection.   |
| 7.3.10 | <p>Visually inspect catheter site for signs of infection e.g. redness, tracking and/or exudates.</p> <p>Discuss observations with patient and check if they are experiencing any symptoms e.g. pain, swelling or tenderness at site.</p>                       | <p>(Dougherty and Lister 2015)</p> <p>If the site is red or discharging, take a swab for culture and sensitivity for identification of pathogens . To predict colonization of the site.</p>                    |
| 7.3.11 | Check marking of catheter length at insertion site.  | To confirm that catheter is still in correct position.   |
| 7.3.12 | Clean hands with alcohol hand gel.   |  |
| 7.3.13 | Prepare required equipment on clean tray.  |  |

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|        | Action  | Rationale  |
|--------|---|--|
| 7.3.14 | Check the prescribed 0.9% sodium chloride (and heparin where required) with second registered nurse or medical practitioner.  |  |
| 7.3.15 | Put on non-sterile gloves   |  |
| 7.3.16 | Perform flushing procedure using an aseptic non-touch technique.  | To prevent infection.  |
| 7.3.17 | <p>Clean needlefree IV connector using an individually wrapped 2% chlorhexidine gluconate in 70% isopropyl wipe (Clinell green).</p> <p>Apply the wipe firmly and rotate through 180° five times over the silicone surface and associated rim of the device and allow the solution to air dry for 30 seconds.</p> <p>Be careful not to touch the surface and rim of the needlefree IV connector after swabbing.</p> | <p>To minimize the risk of contamination at the connections (Pratt et al 2007)</p>  |
| 7.3.18 | <p><b><u>Non Clamped Line:</u></b></p> <p>Attach a pre-filled saline syringe directly into the needlefree IV connector and turn clockwise.</p> <p>Pull on plunger to withdraw small amount of blood into PICC line to verify venous placement.</p> <p>Inject 10mL of 0.9% sodium chloride using a 'push-pause' or 'start stop' turbulent motion, infusing 1ml at a time.</p>  | <p>To create turbulence in order to flush the catheter thoroughly (Goodwin and Carlson)</p>  |

|  | <b>Action</b>  | <b>Rationale</b>  |
|--|--|---|
|  | <p>Continue flushing technique until completion, finishing with positive pressure by continuing to simultaneously flush the last 0.5mL as the syringe is slowly withdrawn from the needlefree IV connector i.e. the pressure of your thumb remains on the plunger as the syringe is removed.</p>   |   |
|  | <p><b>Clamped Line:</b><br/>           Attach an empty 10mL syringe directly into the needlefree IV connector and turn clockwise.<br/>           Unclamp the line.<br/>           Pull on plunger to withdraw 5mL of blood. Discard syringe with blood.<br/>           Inject 10mL of 0.9% Sodium Chloride using a 'push-pause' or 'start stop' turbulent motion, infusing 1ml at a time.<br/>           Clamp line as you infuse the last 0.5mL finishing with positive pressure by withdrawing syringe whilst flushing.<br/>           Unclamp the line and<br/> <b>Instil 2ml Heparin sodium 100 international units /ml to lock the lumen/s flushed.</b><br/>           Clamp line as you infuse the last 0.5mL finishing with positive pressure by withdrawing syringe whilst flushing.</p> | <p>To maintain positive pressure and preventing backflow of blood into the catheter, and possible clot formation.<br/>           BC Cancer Agency (2012).<br/>           Again a prefilled syringe can be used.</p> |



|        | Action  | Rationale  |
|--------|---|--|
| 7.3.19 | Dispose of syringe/s into sharps container.   |  |
| 7.3.20 | Following flushing of the line, clean the needlefree IV connector with 2% chlorhexidine in 70% alcohol and dry for 30 seconds and ensure the septum is in the closed/home position. |  |
| 7.3.21 | Remove gloves and any other PPE and dispose in appropriate waste bag.   |  |
| 7.3.22 | Clean hands with alcohol hand rub.  | To reduce risk of infection.   |
| 7.3.23 | Decontaminate tray. Clean hands and return the decontaminated tray to clinical/treatment room.  | To prevent contamination of others   |
| 7.3.24 | Document the procedure in the CVAD Nursing Care Plan/ In-Patient prescription Chart where required.   | Maintain appropriate records   |

**After blood aspiration for any reason or when blood is observed in the catheter:**

**Note:** When blood is aspirated prior to infusion of medication (to verify venous placement), catheter should be irrigated with 10ml of normal saline prior to attaching medication syringe, IV or infusion pump tubing. Failure to do so may result in an occluded catheter, leading to difficulty in aspirating in the future.

Follow flushing procedure, use 10ml normal saline to clear blood from the catheter.

If unable to flush all blood residue out of the needlefree IV connector, replace it as per needlefree IV connector change (refer to section 7.6)

## 7.4 Procedure for Blood Withdrawal from a PICC

### 7.4.1 Purpose

- To obtain blood samples for laboratory evaluation, eliminating the need for peripheral vein punctures.
- To verify venous placement prior to administration of hypertonic or vesicant solutions.

**Note: If you encounter any difficulties with blood withdrawal, refer to section 7.8 – Trouble shooting guide – aspiration difficulties.**

7.4.2 Obtaining blood samples from a central venous access device can lead to inaccurate results, especially coagulation values, if the correct method is not followed to ensure removal of any medication/solution prior to sampling.

#### **The discard method**

The *discard method* is the standard accepted method (recommended by the Royal Marsden Hospital) where 5-10ml of blood is withdrawn and discarded. This ensures removal of any heparin or sodium chloride 0.9% injection solution but may result in excessive blood removal in small children or those requiring multiple samples

7.4.3 Use the Vacutainer System for collecting blood samples from a PICC.

### 7.4.4 Prior to blood sampling when infusing TPN

Follow routine maintenance, except use 20ml normal saline and flush to clear TPN from catheter.


#### 7.4.5 Equipment Required

- Disinfect a plastic procedure tray/dressing trolley with a chlorine wipe (dressing trolley is required if a number of procedures will be undertaken e.g. blood sampling along with the administration of fluids / medications or for blood cultures where the an aseptic field is essential to avoid contamination)
- Sharps container
- Sterile dressing pack (only required for blood cultures or if the HCW cannot protect the key parts required for blood sampling)
- 1 x Pair of non-sterile gloves
- Personal protective equipment as per hospital infection control policy
- Alcohol hand gel
- Pre-filled 0.9% sodium chloride syringes x 2 (for each lumen)
- 2% chlorhexidine gluconate in 70% isopropyl alcohol wipes (Clinell green).
- 2mls heparinised saline (100 international units Heparin per ml solution (one for each lumen) where required
- Individually wrapped sterile needlefree IV connector/s (one for each lumen)
- Vacuum blood collection system/leur adaptor
- Appropriate vacuumed blood specimen tubes
- Blood culture bottles – (if clinically indicated) - one set per each lumen.

## Procedure for Blood Sampling from a PICC

|        | Action   | Rationale  |
|--------|--|--|
| 7.4.6  | <p>Identify the patient.<br/>Check patient's name, date of birth and hospital number against the patient's identification bracelet.</p> <p>In an out-patient situation, ascertain the patient's identity by verifying the name, date of birth and address.</p> | <p>To provide positive identification of patients during all stages of clinical treatment, minimising related medical errors and patient harm.</p> <p>SLGH Patient Identification Policy (most up to date)</p> |
| 7.4.7  | Explain and discuss the procedure with the patient.  | To ensure that the patient understands the procedure and gives his/her consent.  |
| 7.4.8  | Check if the patient has any allergies. If chlorhexidine sensitive use a 70% isopropyl alcohol swab.   |  |
| 7.4.9  | Check blood forms to ascertain sample specimen bottles required and check patient's identity.  | To ensure correct samples are taken from the correct patient.  |
| 7.4.10 | Perform procedure using an ANTT.   | To reduce risk of infection.   |
| 7.4.11 | Adhering to strict hand hygiene (WHO 5 moments) 2009.  |  |
| 7.4.12 | Prepare the tray or dressing trolley with equipment and take it to the patient area.   | To reduce risk of contamination of contents  |
| 7.4.13 | Clean hands with alcohol gel.  |  |
| 7.4.14 | <p>Stop any IV fluids infusing through the catheter, including another lumen of the catheter.</p> <p>Ensure the line is clamped for a maximum of <b>10 minutes</b> prior to taking blood samples.</p>  | To avoid dilution of the sample and erroneous results  |

|        | <b>Action</b>   | <b>Rationale</b>  |
|--------|---|---|
|        | <p>If solutions other than clear intravenous fluids are being infused, for example Parenteral Nutrition, use discretion and professional judgement before stopping to draw from the PICC, or seek advice from Nurse in Charge or PICC Nurses or Medical Practitioner. It may be preferable in some instances to take blood via peripheral venepuncture.</p> <p>Remember to restart the intravenous infusion once blood has been drawn and the PICC has been flushed with 20mL 0.9% Sodium Chloride.</p> | <p>To ensure that the patient's intravenous therapy (fluids/medication) continues.</p>            |
| 7.4.15 | <p><b>Prior to blood sampling when infusing TPN:</b></p> <p>If TPN is being administered, clinicians should utilise one lumen exclusively for that use.</p> <p>Stop TPN infusion for 10 minutes prior to blood sampling</p> <p>Withdraw 5 mL of blood from alternative lumen and discard.</p>   |   |
| 7.4.16 | <p>Open sterile pack (if required) and prepare equipment.</p>   |   |
| 7.4.17 | <p>Plan to access the red lumen of the PICC line for blood sampling.</p>  | <p>The red lumen of the PICC line has the largest lumen and should be used for blood sampling</p> |
| 7.4.18 | <p>Clean hands with alcohol hand gel.</p>   | <p>To reduce the risk of introducing infection into the catheter.</p>                             |
| 7.4.19 | <p>Put on non-sterile gloves.</p>   | <p>To prevent contamination of practitioner's hands with blood.</p>                               |




|        | <b>Action</b>   | <b>Rationale</b>  |
|--------|---|---|
| 7.4.20 | <p>Clean the needlefree IV connector thoroughly with 2% chlorhexidine in 70% alcohol wipe (Clinell green). Allow to dry for 30 seconds.</p> <p>Take care not to touch the part of wipe that will have contact with the PICC.</p>  | <p>To enable disinfection process to be completed</p>   |
| 7.4.21 | Clean needlefree IV connector thoroughly with Clinell (green) wipe. Allow to dry for 30 seconds.  |   |
| 7.4.22 | Attach the vacuum blood collection system firmly to the needlefree IV connector. Unclamp the line when required.  |   |
| 7.4.23 | <p>Attach a discard tube into vacuum collection device sleeve so that the rubber stopper is pierced. Fill with blood to the 5mL mark and discard bottle.</p> <p><b>Note:</b> If sampling is for the purpose of obtaining blood cultures, <b>do not aspirate /discard the first 5mL blood.</b></p> | <p>To remove blood, heparin or sodium chloride 0.9% injection solution from 'dead-space' of the catheter. Blood samples taken from dead space are likely to cause inaccuracies in results, because of contamination from above (Royal College of Nursing, 2010).</p> <p>To maintain closed system and prevent contamination of practitioner or air entry.</p> |
| 7.4.24 | Attach the required blood specimen tube into vacuum collection device sleeve so that the rubber stopper is pierced. Blood needed for specimen will flow into specimen tube. Change specimen tubes as needed for required tests.   |   |

|        | <b>Action</b>  | <b>Rationale</b>  |
|--------|--|---|
| 7.4.25 | <p>Ensure correct 'order of draw' is followed.</p> <p>The recommended order is</p> <ol style="list-style-type: none"> <li>1) blood cultures</li> <li>2) tubes without additives</li> <li>3) coagulation tubes</li> <li>4) other tubes with additives</li> </ol>  | <p>Following the correct order of draw will avoid possible test error, which may occur due to cross contamination of tube additives</p> <p>To prevent blood loss air embolism</p> |
| 7.4.26 | Re-clamp line (where necessary).   |   |
| 7.4.27 | Remove vacuum blood collection system from the needlefree IV connector and discard into sharps container.  |   |
| 7.4.28 | Clean needlefree IV connector with 2% chlorhexidine in 70% alcohol wipe (Clinell green) and allow to dry for 30 seconds.   |   |
| 7.4.29 | <p>Attach Pre-filled 0.9% sodium chloride syringe to the needlefree IV connector.</p> <p>Inject 20mL of 0.9% sodium chloride using a 'push-pause' or 'start stop' turbulent motion, infusing 1ml at a time.</p> <p>Continue flushing technique until completion, finishing with positive pressure by continuing to simultaneously flush the last 0.5mL as the syringe is slowly withdrawn from the needlefree IV connector i.e. the pressure of your thumb remains on the plunger as the syringe is removed.</p> |   |
| 7.4.30 | If unable to flush all of the blood residue out of the needlefree IV connector, attach a new sterile needlefree IV connector as per needlefree IV connector change procedure (refer to section 7.6).   |   |

|        | <b>Action</b>   | <b>Rationale</b>  |
|--------|---|---|
| 7.4.31 | <b>Clamped Line</b><br>Instil <b>2ml Heparin sodium 100 international units /mL</b> to lock the lumen of the PICC after blood sampling.               |   |
| 7.4.32 | Immediately after filling the samples reconfirm the patient's identity.   | To ensure correct sampling  |
| 7.4.33 | Remove gloves and perform hand hygiene.   |   |
| 7.4.34 | Label blood samples at the patient's bedside, verifying the patient's name, hospital number and date of birth. Invert the bottles of blood 5-8 times. | Properly identifies the patient and the laboratory tests to be performed. |
| 7.4.35 | Send blood samples and appropriate request forms in specimen bag to laboratory.   |   |
| 7.4.36 | Dispose of equipment used in appropriate clinical waste and sharps containers. Decontaminate the tray/dressing trolley.                               |   |
| 7.4.37 | Medical practitioners document in healthcare record and nurses document in nursing care plan.   | To maintain accurate records of patient interventions                     |




## Blood Cultures

|        | Action  | Rationale   |
|--------|---|---|
| 7.4.38 | Clean hands with alcohol hand rub.  |   |
| 7.4.39 | <p>Prepare equipment including the blood culture bottles as outlined below. Apply disposable apron.</p> <p>Remove the plastic 'flip-caps' from the blood culture bottle, avoid touching rubber septum. Disinfect the tops of culture bottles (septum) for 15 seconds with a 2% chlorhexidine in 70% isopropyl alcohol impregnated swab (Clinell or equivalent). Allow the bottle tops to dry in order to fully disinfect. <b><u>Use a fresh swab for each bottle.</u></b></p> | <p><b>N.B.</b> Ensure ANTT to prevent contamination of samples.</p> <p>Disinfection of the top of each bottle is to avoid microbiological contamination</p>  |
| 7.4.40 | Clean hands with alcohol gel.   |   |
| 7.4.41 | Put on non sterile gloves.  |   |
| 7.4.42 | Clean needlefree IV connector thoroughly with 2% chlorhexidine in 70% isopropyl wipe. Allow to dry for 30 seconds.  |   |
| 7.4.43 | Attach the vacuum blood collection system firmly to the needlefree IV connector. Unclamp the line when required.  |   |
| 7.4.44 | <p>Attach the blood culture bottle into vacuum collection device sleeve so that the rubber septum is pierced.</p> <p>Blood needed for specimen will flow into blood culture bottle. Change blood culture bottle/s as needed for required tests.</p>   | <p>Use the blood directly drawn from line to ensure higher probability of identification of line sepsis</p>   |

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|        | <b>Action</b>   | <b>Rationale</b> |
|--------|---|------------------|
| 7.4.45 | Re-clamp line (where necessary).  |                  |
| 7.4.46 | Remove vacuum blood collection system from the needlefree IV connector and discard into sharps container.   |                  |
| 7.4.47 | Clean needlefree IV connector with 2% chlorhexidine in 70% alcohol wipe (Clinell green) and allow to dry for 30 seconds.  |                  |
| 7.4.48 | <p>Attach Pre-filled 0.9% sodium chloride syringe to the needlefree IV connector.</p> <p>After taking blood cultures, inject 20mL of 0.9% sodium chloride using a 'push-pause' or 'start stop' turbulent motion, infusing 1ml at a time.</p> <p>Continue flushing technique until completion, finishing with positive pressure by continuing to simultaneously flush the last 0.5mL as the syringe is slowly withdrawn from the needlefree IV connector i.e. the pressure of your thumb remains on the plunger as the syringe is removed.</p> |                  |
| 7.4.49 | If unable to flush all of the blood residue out of the needlefree IV connector, attach a new sterile needlefree IV connector as per needlefree IV connector change procedure (refer to section 7.6).  |                  |
| 7.4.50 | <p><b>Clamped Line</b></p> <p>Instil <b>2ml Heparin sodium 100 international units /ml</b> to lock the lumen of the PICC after blood sampling.</p>  |                  |

|        | <b>Action</b>  | <b>Rationale</b>  |
|--------|--|---|
| 7.4.51 | Repeat steps as per each lumen.  |   |
| 7.4.52 | Remove gloves and perform hand hygiene.  |   |
| 7.4.53 | Immediately after filling the samples reconfirm the patient's identity.  | To ensure correct sampling  |
| 7.4.54 | Clearly label the blood culture bottles at the patient's bedside, identifying which lumen the sample came from and with the patient name, date of birth and hospital number. |  <p>Do not place patient labels over the bar codes. Do not remove bar codes.</p> |
| 7.4.55 | Send blood cultures samples and appropriate request forms in specimen bag to laboratory.   |   |
| 7.4.56 | <b>N.B.</b> Ensure that peripheral blood cultures are also taken.  |   |
| 7.4.57 | Dispose of equipment used in appropriate clinical waste and sharps containers.   | To prevent contamination of others  |
| 7.4.58 | Clean hands with alcohol gel. .  |   |
| 7.4.59 | Document the care in appropriate healthcare record. Medical practitioners document in healthcare record and nurses document in nursing care plan.                            | To maintain accurate records of patient interventions   |

## 7.5 Replacement of IV fluids and IV administration set changes

### Replacement of IV Fluids

| Fluid  | Replacement Interval |
|--|----------------------|
| Standard (crystalloid) and non-lipid parenteral solutions                  | Every 24 hours       |
| Lipid containing solutions   | Within 24 hours      |
| Lipid emulsions  | Within 24 hours      |
| All blood components (excluding factor VIII or IX for continuous infusion) | Within 4 hours       |
| Drug infusions (e.g. heparin, insulin)                                     | Every 24 hours       |

#### 7.5.1 Equipment Required

- Disinfect plastic procedure tray with a chlorine wipe
- 1 x Non-sterile gloves
- Alcohol hand gel
- Infusion fluid
- IV administration set
- Infusion stand
- Infusomat pump
- 2% chlorhexidine gluconate in 70% isopropyl alcohol wipes
- Pre-filled 10mL syringes 0.9% sodium chloride x 2
- 1 x 10mL syringe
- Needlefree connector (if changing)

For information relating to the ANTT recommendations for the Central IV Medication Administration, refer to appendix I or the hospital Aseptic technique policy

|       | Action  | Rationale   |
|-------|---|---|
| 7.5.2 | Identify the patient.<br>Check patient's name, date of birth and hospital number against the patient's identification bracelet. | To provide positive identification of patients during all stages of clinical treatment, minimising related medical errors and patient harm. |
| 7.5.3 | Explain and discuss the procedure with the patient.   | To ensure that the patient understands the procedure and gives his/her consent.   |
| 7.5.4 | Ensure that you have an infusion stand and infusomat pump (ensure same has been decontaminated).                                |   |

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|        | <b>Action</b>   | <b>Rationale</b>  |
|--------|---|---|
| 7.5.5  | Prepare the disinfected tray.   | To reduce risk of contamination of contents   |
| 7.5.6  | Clean hands with alcohol gel.   |   |
| 7.5.7  | Set up your equipment as described in 7.5.1.<br>Ensure you have appropriate infusion set and IV fluids for connection.  |   |
| 7.5.8  | IV administration sets should be spiked into IV infusion bags the whole way.<br><br>Each bag of IV fluid should only be spiked once.<br><br>The IV administration set should be primed correctly.   |   |
| 7.5.9  | Clean hands with alcohol gel.   |   |
| 7.5.10 | Visually inspect catheter site for signs of infection e.g. redness, tracking and/or exudates.<br><br>Discuss observations with patient and check if they are experiencing any symptoms e.g. pain, swelling or tenderness at site or history of rigors or feeling unwell | (Dougherty and Lister 2015)<br><br>If the site is red or discharging, take a swab for culture and sensitivity for identification of pathogens. To predict colonization of the site. |
| 7.5.11 | Check marking of catheter length at insertion site.   | To confirm that catheter is still in correct position.  |
| 7.5.12 | Clean hands with alcohol gel.   |   |
| 7.5.13 | Put on non sterile gloves.  |   |
| 7.5.14 | Clean the needlefree IV connector thoroughly with 2% chlorhexidine in 70% alcohol wipe (Clinell green). Allow to dry for 30 seconds.  | To enable disinfection process to be completed.   |



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|        | <b>Action</b>   | <b>Rationale</b>                               |
|--------|---|--|
| 7.5.15 | <b>For clamped lines only</b><br>Using an empty 10ml syringe, withdraw 5mL of blood and discard.  | To withdraw Heparin from the locked line.      |
| 7.5.16 | Attach Pre-filled 0.9% sodium chloride syringe to the needlefree IV connector and withdraw a small amount of blood into the PICC line to verify venous placement. Flush with 10mL filled 0.9% sodium chloride.                              |  |
| 7.5.17 | Attach IV administration set to the needlefree IV connector. Commence IV infusion as prescribed – ensure same checked with second RGN. Use a volumetric infusion pump with a PICC.  | To adhere to medication management policy      |
| 7.5.18 | Administration sets should be labelled with a change date and changed immediately following administration of blood, blood products, after 24hours following administration of parenteral nutrition and every 96hours if continuous fluids. |  |
| 7.5.19 | <b>Disconnecting an Infusion</b><br>Clean hands with alcohol gel. Put on non sterile gloves.  |  |
| 7.5.20 | Disconnect the IV infusion and administration set and dispose of safely.<br><br>Clean the needlefree IV connector thoroughly with 2% chlorhexidine in 70% alcohol wipe (Clinell green). Allow to dry for 30 seconds.                        | To enable disinfection process to be completed |

|        | <b>Action</b>   | <b>Rationale</b>  |
|--------|---|---|
| 7.5.21 | <p>Attach syringe and flush the catheter with 10 ml 0.9% sodium chloride using "push/pause" positive pressure technique infusing 1ml at a time.</p> <p>Continue flushing technique until completion, infusing the last 0.5ml as the syringe is slowly withdrawn from the needlefree IV connector.</p> | Ensure IV administration sets are changed every 96 hrs once not disconnected as per SARI (2014) |
| 7.5.22 | <p><b>Clamped Line</b><br/>Instil <b>2ml Heparin sodium 100 international units /ml</b> to lock the lumen of the PICC.</p>  |   |
| 7.5.23 | Dispose of all equipment appropriately and clean hands.   | To prevent contamination of others  |
| 7.5.24 | Complete fluid balance chart.   | Maintain accurate records   |
| 7.5.25 | Document the care in appropriate healthcare record.   | Maintain appropriate records  |

**Note: Where possible, continuous intravenous fluids should be administered by clinicians using a volumetric infusion pump.**

**Note:** Blood pressure should not be taken on the arm in which a PICC is inserted (exception where a patient has had breast surgery due to risk of lymphoedema).

**Note:** Where a patient has a variety of intravenous devices in situ it is recommended that each device is clearly labelled e.g. PICC, Cannula. If other routes are used as well e.g. Arterial, PEG then these should be clearly labelled to avoid confusion when administering medications or feeds.

## 7.6 Procedure for Changing Needlefree IV Connectors

### 7.6.1 Purpose

To minimise potential for infection from the needlefree IV connectors.

### 7.6.2 Frequency

- Every seven days (or as per manufacturer's instructions)
- If the integrity of the access port is compromised
- When the needlefree IV connector has been removed for any reason.
- Anytime the needlefree IV connector needleless appears damaged, or when there are signs of leakage, precipitate, blood is seen in the catheter without explanation or blood residue is observed in the needlefree IV connector or other defects.
- After blood withdrawal through the needlefree IV connector.

|       |  |
|-------|--|
| 7.6.3 | <b>Equipment Required</b>  |
|       | <ul style="list-style-type: none"> <li>• Disinfect plastic tray with integrate sharps container with a chlorine wipe</li> <li>• New sterile needlefree IV connector/s (one for each lumen)</li> <li>• 2% chlorhexidine in 70% alcohol wipes (Clinell green)</li> <li>• Pre-filled 0.9% sodium chloride syringe/s</li> <li>• 1 x pair non-sterile gloves</li> </ul> |

|       | <b>Action</b>  | <b>Rationale</b>   |
|-------|--|--|
| 7.6.4 | <p>Identify the patient.<br/>Check patient's name, date of birth and hospital number against the patient's identification bracelet.</p> <p>In an out-patient situation, ascertain the patient's identity by verifying the name, date of birth and address.</p> | <p>To provide positive identification of patients during all stages of clinical treatment, minimising related medical errors and patient harm.</p> <p>SLGH Patient Identification Policy (most up to date)</p> |
| 7.6.5 | Explain and discuss the procedure with the patient.  | To ensure that the patient understands the procedure and gives his/her consent.  |



|        | <b>Action</b>   | <b>Rationale</b>  |
|--------|---|---|
| 7.6.6  | Adhere to strict hand hygiene (WHO 5 moments).  | HSE SE Hand Hygiene Policy  |
| 7.6.7  | Prepare a disinfected tray with required equipment and take it to the patient area.   | To reduce risk of contamination of contents   |
| 7.6.8  | Clean hands with alcohol gel.   |   |
| 7.6.9  | Put on clean non sterile gloves.  |   |
| 7.6.10 | Perform procedure using an aseptic non touch technique.   |   |
| 7.6.11 | Open needlefree IV connector package and pre-filled 0.9% sodium chloride syringe  |   |
| 7.6.12 | <b>Clamped lines;</b> Ensure the catheter is clamped over the reinforced portion of the catheter prior to removal of the needlefree connector.  |   |
| 7.6.13 | Hold the hub of the catheter below the level of the patient's heart (prevents "manometer effect" or fluid drop in the catheter) and remove the old needlefree IV connector and discard. | Helps prevent air embolism. Completes the process of disinfection (Loveday et al. 2014) |
| 7.6.14 | Clean the outside of the catheter hub with 2% chlorhexidine in 70% alcohol wipes for a minimum of 30 seconds and allow to dry.  |   |
| 7.6.15 | Remove the tip protector from the new needlefree IV connector and twist clockwise onto the catheter hub.  |   |

|        | <b>Action</b>  | <b>Rationale</b>   |
|--------|--|--|
| 7.6.16 | Irrigate the catheter with 10ml normal saline following flushing procedure in section 7.3.                         |  |
| 7.6.17 | <b>Clamped Line</b><br>Instil <b>2ml Heparin sodium 100 international units /ml</b> to lock each lumen of the PICC |  |
| 7.6.18 | Repeat steps above with all other lumens.  |  |
| 7.6.19 | Remove gloves.   |  |
| 7.6.20 | Dispose of equipment appropriately and clean hands.  | To prevent contamination of others   |
| 7.6.21 | Document the procedure in appropriate healthcare records.  | To maintain accurate and contemporaneous records of patient interventions. |

## 7.7 PICC Cleaning and Dressing Change Procedure

### 7.7.1 Purpose

To prevent external infection of the central venous catheter.

### 7.7.2 Frequency

PICC dressings should be changed 24hours after insertion and as below;

### 7.7.3 Equipment

- Dressing trolley
  - Disinfect dressing trolley with a chlorine wipe and allow to air dry.
- Sterile dressing pack
- Sterile impervious sheet (if not included in the dressing pack).
- Personal Protective equipment
- Pair of non-sterile gloves
- Pair of sterile gloves
- Skin cleansing solution: 2% Chlorhexidine in 70% Alcohol (Chloraprep<sup>®</sup>) solution or Povidine-iodine in alcohol solution if chlorhexidine sensitive.
- 2% chlorhexidine gluconate in 70% isopropyl alcohol wipes
- Individually wrapped needlefree IV connector/s (one per Lumen)
- StatLock<sup>™</sup> PICC stabilisation device
- Transparent, semi-permeable, polyurethane dressing (Opsite IV3000<sup>™</sup>) or gauze dressing (Mepore<sup>™</sup>).

|       | Action   | Rationale   |
|-------|--|---|
| 7.7.4 | A PICC should be dressed with a sterile dressing, using an aseptic technique.  | To minimise the potential risk of infection (O'Grady et al 2013, Registered Nurses' Association of Ontario 2008). |
| 7.7.5 | The choice of dressing may be made according to the clinical situation, patient allergies and preference (O'Grady et al 2013). |   |

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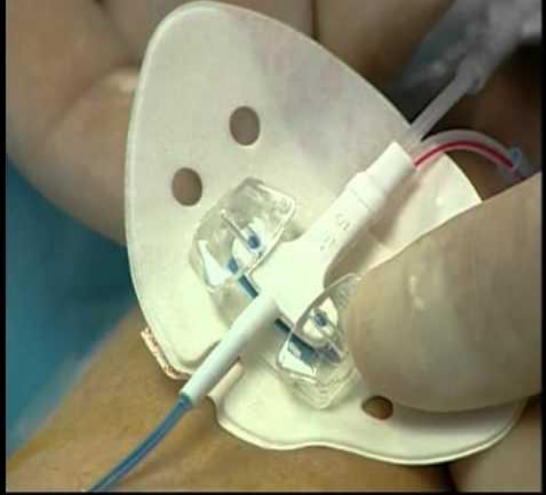
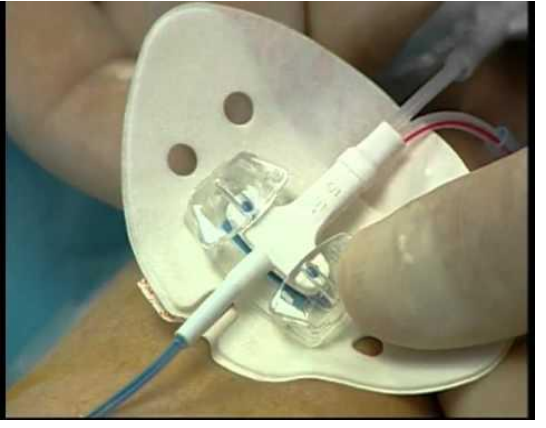
|       | <b>Action</b>  | <b>Rationale</b>   |
|-------|--|--|
| 7.7.6 | <p><b>Dressing Types:</b><br/> <b>First Choice:</b><br/>           Transparent, semi-permeable, polyurethane dressing, such as Opsite IV 3000™. The clinician should inspect the dressing on the exit site each shift.</p> <p><b>Second choice:</b><br/>           Sterile gauze type dressing, such as Mepore™ (note: change to transparent, semi-permeable polyurethane dressing as soon as possible)</p> <p>StatLock™ PICC stabilisation device</p>   | <p>Reliably secures the device; permits visual inspection, allows patient to bathe/shower without saturating the dressing; requires less frequent changes (CDC 2011, O’Grady et al 2013, NICE 2014).</p> <p>Gauze dressings should only be used by clinicians if there is a true contraindication to polyurethane dressing including diaphoresis or excessive ooze from the insertion site and should be replaced by a transparent dressing as soon as possible. NICE 2014).</p> <p>Used to secure PICC catheters in position (Bard Medical 2009).</p> |
| 7.7.7 | <p><b>Frequency of Dressing Change:</b><br/>           Transparent, semi-permeable, self-adhesive polyurethane dressing, such as Opsite IV 3000™ <b>should be changed 24 hrs after insertion</b> and every 7 days or if soiled or peeling off.</p> <p>Gauze dressing should be assessed daily and changed every 48 hours</p> <p>StatLock™ PICC stabilisation device should be monitored daily and changed at least every 7 days (Bard Medical 2009).</p> | <p>All dressings should be replaced routinely as well as when the dressing becomes damp, loosened, no longer occlusive or adherent, soiled, if there is evidence of inflammation, or excessive accumulation of fluid. Manufacturer’s recommendations should be followed.</p>   |
| 7.7.8 | <p><b>Frequency of Needlefree IV connectors changes:</b><br/>           refer to section 7.6</p>   |  |


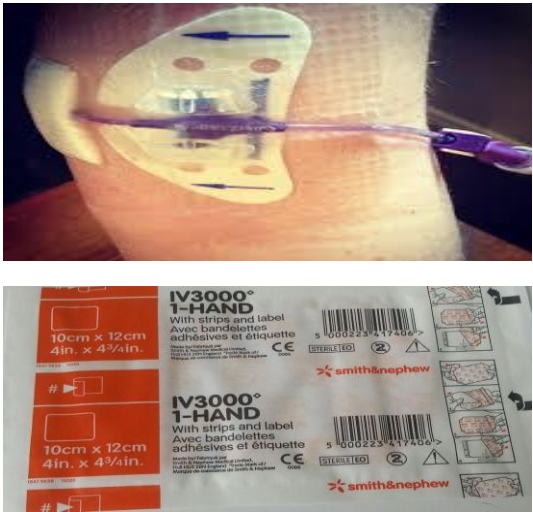
|        | <b>Action</b>  | <b>Rationale</b>   |
|--------|--|--|
| 7.7.9  | <p>Identify the patient.<br/>Check patient's name, date of birth and hospital number against the patient's identification bracelet.</p> <p>In an out-patient situation, ascertain the patient's identity by verifying the name, date of birth and address.</p> | <p>To provide positive identification of patients during all stages of clinical treatment, minimising related medical errors and patient harm.</p> <p>SLGH Patient Identification Policy (most up to date)</p>                         |
| 7.7.10 | <p>Provide the patient with privacy. Pull screens around bed.</p>  |  |
| 7.7.11 | <p>Explain and discuss the procedure with the patient and give him/her the opportunity to voice any concerns, express any preferences or ask any questions. Refer to local interpreter services if required.</p>   | <p>To ensure that the patient understands the procedure and gives his/her consent</p>  |
| 7.7.12 | <p>Check if the patient has any known allergies to skin preparations or adhesive material/dressings.</p>   |  |
| 7.7.13 | <p>Decontaminate hands using alcohol gel.</p> <p>Prepare the sterile dressing field.</p>   | <p>HSE SE Hand Hygiene Policy</p> <p>Hand Hygiene is the single most important intervention to prevent the transmission of infection &amp; is the responsibility of all individuals involved in provision of healthcare WHO (2009)</p> |
| 7.7.14 | <p>Open dressing pack taking care only to touch the corners of it i.e. do not touch the inside of the sterile field, and open all of the above sterile equipment aseptically onto the sterile field.</p>   |    |

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|        | <b>Action</b>  | <b>Rationale</b>  |
|--------|--|---|
| 7.7.15 | Decontaminate hands with alcohol gel.  | Hands may have become contaminated by handling the outer packaging  |
| 7.7.16 | Put on non-sterile gloves.   |   |
| 7.7.17 | Note the condition of the existing dressing. Gently loosen the old dressing. Carefully remove the old transparent dressing using 'stretch technique' and discard. Avoid tugging on the catheter, use of scissors or other sharp objects near the catheter.   | So that the dressing can be lifted off easily<br><br>Reduce the risk of contamination between dirty to clean procedures |
| 7.7.18 | Visually inspect the exit site of the catheter for any, redness, exudate, tracking or swelling.<br><br>Discuss observations with patient and check if they are experiencing any symptoms e.g. pain or tenderness at site.<br><br>Report any such occurrences to medical practitioner and document. | Establishes if there are any signs or symptoms of infection on the PICC site.   |
| 7.7.19 | If the site is red or discharging, take a swab for culture & sensitivity.  | For identification of the pathogens. To predict colonization of the site. (Dougherty & Lister 2015)                     |
| 7.7.20 | Remove and discard non-sterile gloves.   |   |
| 7.7.21 | Repeat hand hygiene.   |   |
| 7.7.22 | Put on sterile gloves.   |   |
| 7.7.23 | Request the patient or a staff member to lift catheter line.   |   |
| 7.7.24 | Place the sterile impervious sheet under the patients arm.   |   |

|        | <b>Action</b>   | <b>Rationale</b>   |
|--------|---|--|
| 7.7.25 | <p>Use 2% chlorhexidine in 70% alcohol solution and swabs (Chloraprep and Clinell).</p> <p>Starting at insertion site apply solution Chloraprep by using up and down and back and forth strokes for at least 30 seconds working outwards.</p>   | Maintains asepsis and prevents contamination of the line.                            |
| 7.7.26 | Allow the cleaning solution to dry for 30 seconds.  | Allows the process of disinfection to be completed.                                  |
| 7.7.27 | <p>Remove StatLock Dressing on a weekly basis by:</p> <ol style="list-style-type: none"> <li>1) Gently lift the old StatLock dressing plate using Clinell wipes. Do not pull or force StatLock to remove.</li> <li>2) Stabilise the PICC with one finger while holding the StatLock device. Gently lift the plastic retainer doors, one side at a time and remove the PICC wings.</li> </ol> <p>This is a delicate procedure.</p> |   |
| 7.7.28 | <p>Be cautious not to allow PICC line to move from baseline exit site. You cannot push line back into correct position afterwards. It may be helpful to have the assistance of two at this stage when removing Statlock dressing &amp; keep PICC line secured and stable.</p> <p>Discard Statlock dressing in clinical waste bin.</p>   |  |

|        | <b>Action</b>  | <b>Rationale</b>   |
|--------|--|--|
| 7.7.29 | <p><b>Pinch</b><br/>Using Chloraprep Stick, click the stick. Hold Stick downwards &amp; allow solution to saturate sponge.</p> <p><b>Apply</b><br/>Cleanse away from the site with Chloraprep using gentle up and down and back &amp; forth strokes for 30 seconds. Clean across the entire catheter exit site to beyond border of previous IV 3000 dressing.</p> <p><b>Dry</b><br/>Allow the skin to dry.</p> |    |
| 7.7.30 | <p>Apply the New Statlock dressing:</p> <p>Align StatLock anchor pad so directional arrows point towards insertion site.<br/>Place PICC wings, one at a time into housing on anchor pad and close doors.<br/>Peel away paper backing from anchor pad, one side at a time, then place on skin.</p>  |  |
| 7.7.31 | <p>Apply the transparent adhesive polyurethane Opsite IV 3000 dressing.</p> <p>Ensure the centre of the dressing covers the insertion site.</p> <p>Ensure the dressing creates a perfect seal around the catheter.</p>   |  |

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|        | <b>Action</b>   | <b>Rationale</b>              |
|--------|---|-------------------------------|
| 7.7.32 | Remove and discard gloves.<br>Clean hands.  |                               |
| 7.7.33 | Dispose of all equipment appropriately and decontaminate the dressing trolley   |                               |
| 7.7.34 | Record the change of dressing procedure in the nursing care plan including date and time, condition of catheter site, type of dressing applied, patient education and if wound swab send. Document also the date dressing and bung changes are due. | To maintain accurate records. |

## 7.8 Recognition of Problems and Troubleshooting

- PICC lines have potential complications and commonly occurring problems should have been discussed with the patient before insertion.
- Management of PICC lines should be directed at minimising the risk of complications and early identification of their signs.
- If any of the following complications are suspected contact the patient's medical team.

### 7.8.1 Infection

Intra-luminal bacterial colonisation of PICC lines can lead to life-threatening bacteraemia. All patients, but particularly those likely to be or become immunocompromised, should be advised to report promptly any signs of infection such as fever or malaise. Infection can also occur around the exit site (where the catheter exits the skin). PICC lines should be inspected regularly (at least each dressing change and daily on acute ward areas) for signs of infection such as erythema, discomfort, discharge or pyrexia. This should be noted on the CVAD care plan.

Note that pus may be absent in immunocompromised patients.

| Problem   | Cause  | Action  |
|---|--|---|
| Visible signs of infection on the PICC line exit or entry sites – visible tracking along line<br><br>Patient may be pyrexial, tachycardic and may experience rigors | Infection due to poor aseptic technique<br><br>Patient will display signs of sepsis particularly after use and flushing of PICC line | Contact medical team immediately. Call for NEWS team if NEWS score high.<br><br>Activate Sepsis 6 protocol and commence Sepsis Screening Form.<br><br>Explain procedures and reassure the patient<br><br>Take relevant blood cultures and swabs. Administer antibiotic therapy. Monitor patient closely<br><br>If sepsis does not settle line may require removal |

## 7.8.2 What to do if there is no blood return from PICC

- 7.8.2.1 Check that there is no external occlusion, such as a kinked line or the clamp is closed.
- 7.8.2.2 Ask the patient to cough, breathe deeply and/or change position while aspirating line again (Simcock 2001).
- 7.8.2.3 If unsuccessful attempt to inject 1-2mls of normal saline or a heparin sodium solution using a 10ml sterile leur lock syringe, without using excessive force and aspirate again. You may need to infuse 1-2 mls and draw back again continuously for 1-2 minutes to build up turbulence in the line.
- 7.8.2.4 If unsuccessful perform a chest x-ray and have same reviewed by a medical practitioner.
- 7.8.2.5 If indicated, dye studies may then be ordered.
- 7.8.2.6 For further management i.e. the use of Actilyse (Alteplase) Cathflo 2mg. Refer to MEG eGuides App. **Note: Actilyse can only be administered by a PICC Nurse, Oncology CNS or by a Medical practitioner.**

### 7.8.3 Occlusion

This can be either extra-luminal (outside the catheter) or intra-luminal (inside). Extra-luminal occlusion is likely when it is possible to infuse or flush through the PICC line but it is not possible to aspirate blood. This is sometimes referred to as 'Persistent withdrawal occlusion (PWO)'. PWO can be due to mal-positioning of the PICC line and an X-ray may be necessary to confirm the position. Formation of a fibrin sheath may occur in-situ.

| Problem                   | Cause  | Action  |
|---------------------------|--|---|
| Unable to draw back blood | Catheter tip occluded by the vein wall.  | Attempts can be made to solve this by first flushing the PICC line.   |
|                           | Catheter blocked by blood clots due to<br>1) Infusion being too slow or switched off<br>2) Lumen not adequately flushed after use – Drug precipitation | <b>Ask the patient to raise both arms above their head and/or take deep breaths/cough</b> whilst an attempt is made to aspirate. <b>Changing the position of the patient</b> will sometimes work. |
|                           | Check external clamp not occluding the line  | Open clamp and run it gently down the line re-clamp.<br><br>Gently pinch area where clamp had been to ensure no occlusion from line.  |

If actions above have not improved the situation and lumen remains blocked, refer the patient to the patient's team. *Liase with Oncology departments/PICC Nurse for advice if required.*

***Excessive force should not be used if resistance is felt during an attempt to flush the line.***

#### 7.8.4 Other problems to be aware of include:

| <b>Problem</b>                               | <b>Cause</b>   |
|--|--|
| Pinch off syndrome                           | This occurs when the catheter lumen is compressed between the clavicle and the first rib |
| Air embolism                                 | Air entering the circulation during catheter insertion or via the catheter               |
| Brachial plexus injury                       | Injury during insertion  |
| Oedema on the side of the catheter insertion | Thrombosis   |
| Leakage of fluid on to the dressing          | Loose connection in the system but check the line for fracture                           |
| Cardiac arrhythmia                           | Cardiac irritability   |

**All of the above are serious complications and the medical team need to be alerted immediately for an urgent medical review.**

## **7.9 Consent**

- 7.9.1 At each step of the PICC care process education of the patient and ensuring patient understanding (as applicable) are essential.
- 7.9.2 Prior to device insertion patients and/or their families/carers should be educated and informed on the necessity for device insertion, its use, care and maintenance. This should form the basis of informed consent.
- 7.9.3 At each access of the device the patient should be informed regarding the procedure with verbal consent to access the device as applicable. Every effort should be undertaken to educate the patient and/or family/carer on the procedures necessary to care for their device safely and how to prevent infection.

## **7.10 Patient Information/Education**

This education should include the following:

- The nature and purpose of the device
- The type of device and how long it stays in place
- Practical information around maintaining hygiene
- Signs that might indicate problems with the device or that the device may need to be removed
- The importance of hand hygiene and how to perform hand hygiene effectively
- How to protect the device from infection and other complications
- Contact numbers for the relevant service that the patient is undergoing their care with.

## 7.11 Procedure for Removal of a PICC

A PICC may be removed by appropriately trained nurses.

### 7.11.1 Equipment Required

- Dressing trolley (decontaminated prior to and after use)
- Sterile dressings pack (gauze, gallipot, sterile field etc.)
- Skin Cleansing: 2% Chlorhexidine Gluconate in 70% alcohol solution( Chlorprep ™) or Povidine-iodine in alcohol solution if Chlorhexidine sensitive
- Appropriate Personal Protective Equipment
- 2 x pair of non sterile gloves
- 70% Isopropyl alcohol swabs
- 2 packages of sterile 2x2 gauze
- Sterile transparent semi-permeable occlusive dressing (TSM)
- Microbial swab for culture if a site infection is suspected
- Sterile universal container if suspected catheter infection

|        | <b>Action</b>   | <b>Rationale</b>  |
|--------|---|---|
| 7.11.2 | Review patient's chart and reason for PICC removal. Verify medical practitioners order for PICC removal.  | Consideration should be given to patient's full blood count and coagulation status (e.g., INR, PT, PTT, platelets) prior to removal as increased time may be needed for haemostasis to occur. Discuss any concerns with medical practitioner. |
| 7.11.3 | Check the patient's chart for the exact trimmed length of the PICC upon insertion.  | This will be compared with the length of the PICC upon removal.   |
| 7.11.4 | Identify the patient. Check patient's name, date of birth and hospital number against the patient's identification bracelet.<br><br>In an out-patient situation, ascertain the patient's identity by verifying the name, date of birth and address. | To provide positive identification of patients during all stages of clinical treatment, minimising related medical errors and patient harm.<br><br>SLGH Patient Identification Policy (most up to date)                                       |

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|         | <b>Action</b>  | <b>Rationale</b>   |
|---------|--|--|
| 7.11.5  | Explain and discuss the procedure with the patient.  | To ensure that the patient understands the procedure and gives his/her consent.                                  |
| 7.11.6  | Check if the patient has any known allergies to skin preparations or adhesive material/dressings.  |  |
| 7.11.7  | Ensure vital signs and observations are checked pre-procedure and within normal limits.  |  |
| 7.11.8  | Clean hands with alcohol gel.  |  |
| 7.11.9  | Put on clean gloves.   |  |
| 7.11.10 | Remove IV administration sets and clamp lumens if necessary. Dispose of IV administration in appropriate receptacle  | If the PICC is non-valved then the lumens must be clamped prior to disconnecting from the IV administration set. |
| 7.11.11 | Remove gloves.   |  |
| 7.11.12 | Perform hand hygiene (WHO 5 moments).  | To reduce risk of cross-infection  |
| 7.11.13 | Gather equipment as per section 7.11.1. Prepare a disinfected trolley and take it to the patient area.   | To reduce risk of contamination of contents  |
| 7.11.14 | Open sterile dressing pack and prepare equipment on sterile field.   |  |
| 7.11.15 | Place patient in supine / trendelenberg position where possible. Position patient's arm outstretched at a 90 degree angle and below level of heart, resting on a pillow. |  |



|         | <b>Action</b>  | <b>Rationale</b>  |
|---------|--|---|
| 7.11.16 | Perform hand hygiene.  |   |
| 7.11.17 | Put on non-sterile gloves.   |   |
| 7.11.18 | Loosen and remove outer dressing from insertion site.  |   |
| 7.11.19 | Release PICC from Statlock stabilization device.   |   |
| 7.11.20 | Remove Statlock stabilisation device from skin using an alcohol swab.  | The alcohol helps to loosen the adhesive making removal easier.   |
| 7.11.21 | Conduct site assessment.   | If a local cellulitis is suspected take a microbial swab for culture and send to microbiology.  |
| 7.11.22 | Remove gloves and perform hand hygiene.  |   |
| 7.11.23 | Put on clean gloves, using inner wrapper as sterile field for under patient's arm.   |   |
| 7.11.24 | Cleanse the exit site and surrounding area thoroughly using Chloraprep swab stick and allow to air dry for 2 minutes.  | Drying time is important to allow for antiseptic effect and to minimize skin reaction when adhesive from dressing comes in contact with antiseptic.             |
| 7.11.25 | Prior to removal, explain to the patient that you will be asking them to hold their breath before the PICC is completely removed.  | .   |
| 7.11.26 | Hold 2x2 sterile gauze directly to exit site with non-dominant hand.<br>With dominant hand, gently remove catheter by grasping catheter at exit site and re-grasping the device near the exit site every 2-3cms. | If resistance is met, discontinue the procedure, the PICC in place and apply a sterile dressing over the site. Refer to section for troubleshooting techniques. |

|         | <b>Action</b>   | <b>Rationale</b>  |
|---------|---|---|
| 7.11.27 | The catheter should be withdrawn in a slow, steady motion using gentle even traction to reduce the risk of venous spasm on removal.   |   |
| 7.11.28 | When down to last 2cms of PICC, remove and apply digital pressure with sterile gauze dressing over the exit site until haemostasis is achieved.   | Do not remove dressing to directly assess insertion site.   |
| 7.11.29 | Apply a sterile TSM dressing to the site on top of the gauze once the bleeding has stopped. If gauze is bloody replace with clean gauze before applying TSM   |   |
| 7.11.30 | On removal the clinician should visually check the integrity of the line to ensure that the tip is present, the complete line has been removed and no breakage has occurred.<br>The removed line should be measured and its length documented and checked against the insertion record. | Any discrepancies must be reported immediately to the medical practitioner. Inspect for an intact tip and not jagged. |
| 7.11.31 | If infection suspected, cut catheter tip into universal container and send for culture and sensitivity.   | Inform relevant medical practitioner of suspected infection and that PICC tip has been sent to microbiology.          |
| 7.11.32 | Remove gloves and dispose of waste appropriately and clean hands. Decontaminate the dressing trolley.   |   |
| 7.11.33 | Observe the patient for 30 minutes post procedure.  |   |

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|         | <b>Action</b>   | <b>Rationale</b>  |
|---------|---|---|
| 7.11.34 | During this time the patient should be observed for symptoms of air embolus.  | Symptoms can include; <ul style="list-style-type: none"> <li>• Shortness of breath</li> <li>• Chest pain</li> <li>• Dizziness</li> <li>• Hypotension</li> <li>• Changed level of consciousness</li> </ul> |
| 7.11.35 | After the elapsed 30 minutes, place the patient in the sitting position. Take vital signs on the non affected arm. The procedure is complete if the patient is asymptomatic.                |   |
| 7.11.36 | Instruct the patient to monitor for signs of shortness of breath, chest pain, fever, chills, rigors, redness or streaking up the arm, swelling of the arm or new bleeding at the exit site. | Patient advised to report to nurse if inpatient or if discharged to present to a local emergency department if present.   |
| 7.11.37 | Document details of removal in appropriate records.   | Maintain appropriate records  |

**NB: In a small number of cases (7%) venous spasm may occur on removal. Please see the following interventions below should this occur.**

### 7.11.38 Venous Spasm

This is the mechanical irritation of the tunica media of the vein resulting in the contraction of the muscular fibres and venous spasm.

#### Signs and symptoms

- Resistance from catheter on removal
- Sharp pain or numbness over vein track
- Unable to remove PICC or sudden obstruction

### Interventions

- If resistance felt; stop procedure.
- Reposition arm and attempt removal again.
- If resistance persists, try to relax the smooth muscle by applying moist heat locally to upper arm for 15-20 minutes.
- Attempt gentle removal once again. Do not force or pull on catheter.
- If appropriate, apply tourniquet for 2-3mins to encourage venous filling. Avoid placing tourniquet over any area of the vein containing the remaining portion of the PICC. Retry.
- If resistance still evident, contact medical practitioner and give GTN as prescribed to dilate the veins and wait 5-10mins before attempting removal again.
- If still unsuccessful, stop and stabilise the external portion of the catheter, coiling it if necessary, with steri-strips. Apply a dressing to cover the insertion site and the external portion of the catheter.
- Contact Emergency Department for advice if after 5pm or at weekend.

## **8 Implementation Plan**

- 8.1 This policy is available to view on the Hospital Intranet site Policies/Procedures/Protocols and Guidelines/Clinical PPPGs and Oncology PPPGs/PICC Service PPPGs.
- 8.2 This policy will be disseminated to the Clinical Director, Hospital Consultants, Director of Nursing, Director of Midwifery, Senior Nurse Management Team, Clinical Nurse/Midwife Managers, Clinical Nurse Specialists, Advanced Nurse Practitioners, Radiography Services Manager, Clinical Risk Manager and Hospital Manager.
- 8.3 It is the responsibility of the Hospital Consultants, Clinical Nurse/Midwifery Managers and Line Managers in each ward/unit/department in the hospital to bring this policy to the attention of all relevant staff in their area of responsibility and ensure that staff have access to this policy.
- 8.4 Dissemination
- Local education sessions (CVAD workshop)
  - Practical demonstrations
  - Training record and competency workbook
  - Certificate of competence

Ultimately it is the responsibility of each individual practitioner to ensure they are familiar with current best practice guidelines (Nursing and Midwifery Board of Ireland, 2014).

- 8.5 Resource Implications
- Release of clinical staff to attend education sessions and practical demonstrations.
  - Maintenance of training records

## **9 Evaluation and Audit**

- 9.1.1 The content and structure of the guidelines will be evaluated and audited 2 years after implementation.
- 9.1.2 Compliance and effectiveness will be audited by Oncology Unit in conjunction with the PICC team.

## 10 Revision History

|                                  |  |
|----------------------------------|--|
| <b>Document Reference Number</b> | <b>SLGH ONC 006</b>  |
| <b>Revision Number 1</b>         | <b>N/A new document</b>                                    |
| <b>Section Number</b>            | <b>Change/s</b>  |
|                                  | This document has the following changes:                   |
|                                  | Procedure for Flushing a PICC                              |
|                                  | Procedure for Blood Withdrawal from a PICC                 |
|                                  | Replacement of IV fluids and IV administration set changes |
|                                  | Procedure for Changing Needlefree IV Connectors            |
|                                  | PICC Cleaning and Dressing Change Procedure                |
|                                  | Recognition of Problems and Troubleshooting                |
|                                  | Consent  |
|                                  | Patient Information/Education                              |
|                                  | Procedure for Removal of a PICC                            |

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## 12 Appendix I ANTT Procedure for Central IV Medication Administration

A N T T
Aseptic Non Touch Technique
Peripheral & central intravenous medication administration
for the ANTT Practice Framework see: [www.antt.org](http://www.antt.org)

\* Prep patient, expose IV access

\* Check medications

Preparation zone

1



Clean hands with alcohol hand rub or soap & water

2



Clean tray according to local policy - creating a Main General Aseptic Field; whilst it dries . . .

3



Gather equipment place around tray

4



Clean hands with alcohol hand rub or soap

5



Apply non-sterilized gloves and plastic apron (use sterilized gloves if you must touch Key-Parts)

6



Prepare Equipment protecting Key-Parts with non-touch technique (NTT) and Micro Critical Aseptic Fields (Caps & Covers)

Patient zone

Proceed to the patient and...

if your gloves have not been contaminated

if, your gloves have been contaminated, clean your hands & re-glove

→

6a



6b



→

7



**Scrub the hub**

- Use a 2% chlorhexidine/70% alcohol wipe
- Open the wipe fully & use NTT
- Scrub the HUB TIP for 15 secs creating friction using different areas of the wipe
- Then wipe away from the tip
- Allow to dry before use

Decontamination zone

8



Administer drugs using NTT

9



Dispose of sharps & equipment

10



Dispose of gloves then apron & immediately...

11



Clean hands with alcohol hand rub or soap & water

Decontamination zone

12



Clean tray according to local policy

13



Clean hands with alcohol hand rub or soap & water



Type your Hospitals name here

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# 13 Appendix II CVAD Nursing Care Plan and CVAD Care Bundle



## Nursing Care Plan St. Luke's General Hospital, Kilkenny

Patient Name:  
Date of Birth:  
Address:  
Hospital No:

|               |                              |                                     |
|---------------|------------------------------|-------------------------------------|
| KEY ISSUE NO: | CENTRAL VENOUS ACCESS DEVICE | ADL: MAINTAINING A SAFE ENVIRONMENT |
|---------------|------------------------------|-------------------------------------|

| <b>Problem Identification:</b> Central Venous Access Device inserted and patient is at risk of infection.                           |   |           |   |
|---|---|-----------|---|
| <b>Reason for insertion:</b> For the administration of medications/ fluids/ TPN/ taking of blood samples due to poor venous access. |   |           |   |
| <b>Goal:</b> 1. Safe management of the device. 2. Maintain patency and prevent complications .3.To prevent infection.               |   |           |   |
| Date/Time   | Plan  | Signature | Resolved/Discontinued Sign, Date & Time |
|   | <p>Follow SLGH Policy on Care &amp; Maintenance of Long Term CVAD (most up to date) and SLGH IPC policy for the prevention of catheter related infection with non tunnelled central vascular catheters.</p> <p>CVAD Temporary <input type="checkbox"/> _____ Long term <input type="checkbox"/> _____<br/> <b>Date &amp; Time Insertion:</b> _____ <b>Type:</b> _____ <b>Insertion Site:</b> _____</p> <p><b>Management of a Patient Post CVAD Insertion</b></p> <ul style="list-style-type: none"> <li>• Check the entry and exit site for bleeding/oozing.</li> <li>• Leave the dressing intact for 24 hrs(if possible)</li> <li>• Monitor and observe that the line is secured safely</li> <li>• Administer analgesia as prescribed and evaluate effectiveness</li> <li>• Monitor and record observations in NEWS and escalate appropriately</li> <li>• Encourage gentle neck and shoulder exercises</li> <li>• Document CVAD insertion details in the above section. Date, Time, Type &amp; Insertion Site</li> <li>• Check for Specific Instructions in Medical Notes</li> <li>• <b>Educate the patient</b> about the CVC and encourage them to inform staff if they notice any changes to insertion site or any new discomfort.</li> </ul> <p><b>Inspection/Assessment (Always use sterile gloves)</b></p> <ul style="list-style-type: none"> <li>• Ensure hand hygiene is performed according to Hand Hygiene policy</li> <li>• Ensure aseptic technique is maintained for Observation/Assessment of Catheter Insertion through the dressing every 12 hours &amp; every time it is accessed</li> <li>• Observe site for signs of infection/inflammation. Report any abnormalities to the medical team immediately.</li> <li>• Clear transparent dressing should be changed at least every 7 days-if dressing changed more frequently, document rationale for same in nursing notes.</li> <li>• Always change dressing if it becomes soiled or no longer intact.</li> <li>• Ensure 2% chlorhexadine gluconate in 70%isopropyl alcohol is used for cleaning the site during dressing change and prior to accessing the CVC hub/injection port.</li> <li>• <b>Document</b> inspection of the site at least once per shift and more frequently if indicated on the reverse of this care plan in CVDA care bundle &amp; any additional information in the nursing notes.</li> </ul> <p>If patient has a temporary CVC in situ <b>review the ongoing clinical indication</b> for the CVC daily with multidisciplinary team. If there is no clinical indication, the CVC should be removed.</p> <p><b>Important Points/Actions in relation to CVAD's</b></p> <ul style="list-style-type: none"> <li>• <b>Immobilise and secure</b> CVAD's adequately <ul style="list-style-type: none"> <li>- Loop Hickman Catheters under the dressing /</li> <li>- Use statlock securement device/Steri Strips to secure the PICCs</li> </ul> </li> <li>• Keep the number of line manipulations to a minimum</li> <li>• Use a size 10ml or greater Sterile Luer Lock Syringe only</li> <li>• Do not proceed if there is no blood return from a CVAD</li> <li>• Refer to the CVAD policy on: Partial or Complete Catheter Occlusions</li> <li>• Treat the Lumens of Double &amp; Triple Lumen Catheters individually (as are separate systems)</li> <li>• Hickman/PICC line flushing and dressing are two separate procedures.</li> <li>• Perform the flushing of the line first.</li> <li>• Don't disconnect Infusions of TPN at any time unless absolutely necessary e.g. blood cultures</li> </ul> <p><b>Use full aseptic technique when manipulating CVC line:</b></p> <ul style="list-style-type: none"> <li>• Observe aseptic non touch technique, standard precautions and product sterility</li> <li>• Dressing trolley with sterile equipment required</li> <li>• Antiseptic hand hygiene before and after contact with the CVAD</li> <li>• Sterile gloves should be employed for all CVAD care/manipulation</li> <li>• Disinfect hub using large sterile 2% gluconate and 70% isopropyl alcohol swab (Clinell green) by swabbing surface 5 times and allow to air dry for 30 seconds</li> <li>• Ensure catheter is clamped</li> <li>• Give medication or connect sterile giving sets aseptically</li> <li>• Flush CVC line after each manipulation using leur lock syringe of 10mls of 0.9% sodium chloride using a (start- stop motion) to prevent occlusion.</li> <li>• Post administration of medication disinfect the hub carefully using the large sterile 2% gluconate and 70% isopropyl alcohol swab (Clinell green)</li> </ul> <p><b>Not in Use Implanted Ports/Catheters</b></p> <ul style="list-style-type: none"> <li>• Flush Tunnelled implanted ports (Port-a-Caths) every 3 months</li> <li>• Flush Hickman/PICC lines weekly</li> </ul> |           |   |

Policy for the Care and Maintenance of Peripherally Inserted Central Catheter (PICC) in Adult Patients

Document Reference No: SLGH ONC 006 Revision No: 1 Approval Date: May 2020



## Central Venous Access Device Nursing Care Plan St. Luke's General Hospital Kilkenny

|                           |
|---------------------------|
| Attach addressograph here |
| Patient Name:             |
| Date of Birth:            |
| Address:                  |
| Hospital No:              |

Record of Daily Care Plan Review

| Date | Reviewed                 | Updated                  | Signature |  | Date | Reviewed                 | Updated                  | Signature |
|------|--------------------------|--------------------------|-----------|--|------|--------------------------|--------------------------|-----------|
|      | <input type="checkbox"/> | <input type="checkbox"/> |           |  |      | <input type="checkbox"/> | <input type="checkbox"/> |           |
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Care plan discussed with the patient Yes  No   
 Core care plans should be altered by the nurse to suit the needs of the patient.

| Date | Time | Plan | Signature | Resolved/Discontinued Sign, Date & Time |
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|      |      |      |           |   |
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### Central Venous Access Device Care Bundle

Note: ✓ YES, X NO. Please keep this care bundle at the patient's bedside **Note: Minimum daily documentation for CVAD Care Bundle**

| Bundle Criteria  | Date |  |  |  |  |  |  |  |  |  |  |  |  |
|--|------|--|--|--|--|--|--|--|--|--|--|--|--|
| The clinical need for line use has been reviewed and recorded today  | AM   |  |  |  |  |  |  |  |  |  |  |  |  |
|  | PM   |  |  |  |  |  |  |  |  |  |  |  |  |
| The dressing is intact and was changed within the past 7 days  | AM   |  |  |  |  |  |  |  |  |  |  |  |  |
|  | PM   |  |  |  |  |  |  |  |  |  |  |  |  |
| Hub contamination is performed before each hub access  | AM   |  |  |  |  |  |  |  |  |  |  |  |  |
|  | PM   |  |  |  |  |  |  |  |  |  |  |  |  |
| Hand hygiene before and after, is performed on all line maintenance/ access procedures                                       | AM   |  |  |  |  |  |  |  |  |  |  |  |  |
|  | PM   |  |  |  |  |  |  |  |  |  |  |  |  |
| Chlorhexidine gluconate 2% (or solution compatible with CVC) is used for cleaning the insertion site during dressing changes | AM   |  |  |  |  |  |  |  |  |  |  |  |  |
|  | PM   |  |  |  |  |  |  |  |  |  |  |  |  |

## 14 Appendix III PPPG Development Group Membership

Ms. Mary Brennan  
CNM2 Ward 7 / PICC Nurse

Signature: Mary Brennan  
Date: 26/2/20

Ms. Catherine Feheny  
CNS Oncology Nurse Specialists

Signature: Catherine Feheny  
Date: 26/02/2020

Ms. Sylvia McLoughlin  
PICC Nurse

Signature: Sylvia McLoughlin  
Date: 09/03/2020

Ms. Patricia Murphy  
CNM2 Oncology Unit

Signature: Patricia Murphy  
Date: 21/04/2020

Ms. Carmel O'Keeffe  
CNS Oncology Nurse Specialists

Signature: Carmel O'Keeffe  
Date: 26/2/20

## 15 Appendix IV Peer Review of Policy, Procedure, Protocol or Guideline

**Reviewer:** The purpose of this statement is to ensure that a Policy, Procedure, Protocol or Guideline (PPPG) proposed for implementation is circulated to a peer review (internal or external). You are asked to sign this form to confirm to the committee developing this Policy or Procedure or Protocol or Guideline that you have reviewed and agree the content and approve the following Policy, Procedure, Protocol or Guideline for use within the organisation:

### Policy for the Care and Maintenance of Peripherally Inserted Central Catheter (PICC) in Adult Patients

I acknowledge the following:

- I have been provided with a copy of the Policy, Procedure, Protocol or Guideline described above.
- I have read the Policy, Procedure, Protocol or Guideline document and agree the content
- I approve the Policy Procedure, Protocol or Guideline for implementation

Signature: M. Hayes Date: 27/4/2020  
Ms. Mary Clare Hayes  
Infection Control & Prevention Nurse Specialists

Signature: Helen Molloy Date: 05/05/2020  
Ms. Helen Molloy  
Practice Development Facilitator

Policy for the Care and Maintenance of Peripherally Inserted Central Catheter (PICC) in Adult Patients

Document Reference No: SLGH ONC 006 Revision No: 1 Approval Date: May 2020

## 16 Appendix V Key Stakeholders Review of Policy, Procedure Protocol or Guideline

**Reviewer:** The purpose of this statement is to ensure that a Policy, Procedure, Protocol or Guideline (PPPG) proposed for implementation is circulated to Managers of Employees who have a stake in the PPPG. You are asked to sign this form to confirm to the committee developing this Policy or Procedure or Protocol or Guideline that you have reviewed and agreed the content and approve of the following Policy, Procedure, Protocol or Guideline for use within the organisation

### Policy for the Care and Maintenance of Peripherally Inserted Central Catheter (PICC) in Adult Patients

I acknowledge the following:

- I have been provided with a copy of the Policy, Procedure, Protocol or Guideline described above.
- I have read the Policy, Procedure, Protocol or Guideline document and agree the content
- I approve the Policy Procedure, Protocol or Guideline for implementation

Signature: Helen Butler Date: 26/2/20  
Ms. Helen Butler  
Director of Nursing

Signature: Garry Courtney Date: 21.4.20  
Professor Garry Courtney  
Clinical Director

Signature: Natasha Murray Date: 27-4-20  
Ms. Natasha Murray  
Clinical Specialist Radiography CT

Policy for the Care and Maintenance of Peripherally Inserted Central Catheter (PICC) in Adult Patients

Document Reference No: SLGH ONC 006 Revision No: 1 Approval Date: May 2020



**Key Stakeholders Review of Policy, Procedure Protocol  
or Guideline Cont'd**

Signature: Paula Power Date: 09/03/2020  
**Ms. Paula Power**  
**A/Director of Midwifery**

Signature: Miriam O'Connor Date: 25/2/2020  
**Dr. Miriam O'Connor**  
**Consultant Oncologists, UHW/SLGH Kilkenny**



## 17 Appendix VI Signature Sheets

I have read, understand and agree to adhere to the attached Policy, Procedure, Protocol or Guideline.

| <b>Print Name</b> | <b>Signature</b> | <b>Area of Work</b> | <b>Date</b> |
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