

PATIENT CARE PLAN FOR CARE OF PERIPHERALLY INSERTED CENTRAL CATHETER (PICC)

These guidelines are part of the Clatterbridge Care and Maintenance of CVADs in hospital and at home for adults

The Clinical Interventions Team at The Clatterbridge Cancer Centre 0151 556-5737. Mon –Fri 8-6 or alternatively the CCC Hotline on 0800 169 5555 which is available 24 hours a day 7 days a week.

These general guidelines have been provided to assist all health care professionals or other users when handling Clatterbridge PICC lines in any setting.

When relatives have been trained and supervised please confirm they are ready to continue ongoing care:

Date:..... Trained by:.....

Issue Date: 17 th February 2020	Page 1 of 31	Filename: GNUAPIPL1	Issue No: 2.5
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TROUBLE-SHOOTING GUIDE

Type of device	Risks	Actions	Variations / Comments	SIGN
Peripherally Inserted Central Catheter (PICC)	Infection due to loss of skin integrity	<ul style="list-style-type: none"> • Site clean and protect with sterile dressing as per CCC guidelines. • Minimum of 8 hourly inspection of exit site for signs of inflammation or infection. Do not remove dressing unless • Take swab for culture and sensitivity if indicated • Check weekly or at each visit if in community setting • Use Biopatch if necessary at exit site • For contact dermatitis see dressing sequencing guide • Chlorhexidine can be the allergen, replace with Povidone and AG patches in place of Biopatch 		
	Contact dermatitis	<p><u>Visual Infusion Phlebitis scored (VIAD) See chart</u></p> <ul style="list-style-type: none"> • Observe patient for signs of line infection (pyrexia/raised WCC) • If clinically unstable and patient has had rigors, first take blood cultures peripherally and then from line (each lumen). Administer antibiotic therapy as prescribed using the line in an attempt to conserve. Assess medical condition prior to removal of line for continued need for reliable venous access • Send line tip for culture and sensitivity following removal if line cannot be salvaged • Ensure administration lines are used according to local policy. • Label infusion lines with date for renewal. • Change add-on devices at same time as administration sets or as soon as integrity is 		
	Line infection potentially resulting in systemic bacteraemia	<ul style="list-style-type: none"> • Observe patient for signs of line infection (pyrexia/raised WCC) • If clinically unstable and patient has had rigors, first take blood cultures peripherally and then from line (each lumen). Administer antibiotic therapy as prescribed using the line in an attempt to conserve. Assess medical condition prior to removal of line for continued need for reliable venous access • Send line tip for culture and sensitivity following removal if line cannot be salvaged • Ensure administration lines are used according to local policy. • Label infusion lines with date for renewal. • Change add-on devices at same time as administration sets or as soon as integrity is 		
	Air embolus	<ul style="list-style-type: none"> • Use Needle-free systems • Ensure air dispelled from medication/ flushes/infusates prior to administration. • Close the clamp when accessing the line or 		

		removing or change infusion bags		
	Thrombus	<ul style="list-style-type: none"> For suspected or confirmed thrombus commence treatment dose LMWH as soon as possible Arrange a Doppler to confirm or exclude thrombus PICC line should be used as required to conserve line and to provide reliable access particularly for those patients with restricted access When a line is no longer required or has failed when a thrombus is diagnosed, treatment dose LMWH should be administered for between 3-5 days before removing the line to limit the risks of embolisation 		
	Occlusion of lumen.	<ul style="list-style-type: none"> Maintain patency via 0.9% Sodium Chloride for injection flushes using positive pressure as per CCC guidelines, Pre & post drug/ infusion administration. Check compatibility of drugs/infusates to eliminate precipitation. Try to flush line using a to-fro method to re-establish patency Attach a half filled 10ml syringe to the line then pull back on syringe and let go several times (Pop technique) to help re-establish patency 		
	Bleeding from site / line itself.	<ul style="list-style-type: none"> Observe for signs of new bleeding from site. Apply pressure above dressing Ensure add-on devices/taps securely fastened. Ensure clotting studies are in acceptable range prior to removal of line. 		
	Palpitations	<ul style="list-style-type: none"> For patients who experience palpitations soon after the insertion of a line, particularly when they lay on their left side. Pull PICC back by 1-2cm only to resolve but to maintain the correct position 		
	Line migration / displacement	<ul style="list-style-type: none"> Check notes to ensure insertion staff have documented line is in correct place and safe to use Check the Securacath device is closed when 		

		<p>redressing line</p> <ul style="list-style-type: none"> • Check each time line accessed for signs of line migration • Anchor lines during dressing changes to avoid accidental displacement or stretching using fixation devices as in CCC guidelines. • If in doubt do not use line until instructed to do so by CIT staff and ensure patient is aware of problems • Order chest x-ray to check tip position. 		
	Line in situ when no longer required.	Ensure prompt removal when line no longer required.		

Visual Infusion Phlebitis (VIP) Scoring Tool for Intravenous Access Device (VIAD)

Exit site appears healthy	→	0	<div style="border: 1px solid black; padding: 5px;"> <p>No sign of phlebitis Observe PICC exit site</p> <p>Possible first signs of phlebitis Continue to observe IV catheter</p> <p style="text-align: center;">IMPORTANT</p> <p style="text-align: center;">Seek advice VIP score 3-5</p> <p>Mon-Fri between 8am and 6pm ring the Clinical Interventions Team on 0151 556-5737 CCC Hotline on 0800 169 5555</p> </div>
One of the following is evident: Slight pain near exit site Slight redness near exit site	→	1	
Two of the following are evident: Pain at exit site Swelling Erythema	→	2	
All of the following are evident: Pain along the IV catheter Erythema Swelling	→	3	
All of the following are evident and extensive: Pain along the path of the IV catheter Erythema Swelling Palpable venous cord	→	4	
All of the following are evident and extensive: Pain along the path of the IV catheter Erythema Swelling Palpable venous cord Pyrexia	→	5	

- Follow this dressings guide for patients who develop contact dermatitis from Level 1-5 and record actions within the documents. **The distal portion of the line may be secured with simple Tegaderm dressing if using the Clear Film I.V. to allow for easy removal when conserving the base dressing.**
- Other suitable alternatives include Allyvn, Sorbaview, Mepore and Duoderm
- **Substitute Chlorhexidine for Povidone if sensitive and replace Biopatch with AG patch**



- **Clear Film I.V** - For all lines with or without Securacath
- If skin becomes red and itchy add in oral antihistamines, move to **Level2:**



- **Tegaderm I.V.Advanced + antihistamines – try IV Clear Pro (port dressing)**
- If itch/redness continue add in Sorbaderm barrier film, move to **Level 3:**



- **IV 3000 + antihistamines + Sorbaderm barrier film**
- If no improvement add in Sorbaderm cream, **Biopatch/Zonis to prevent line infection**, move to **Level 4:**



- **Opsite visible +antihistamines + Sorbaderm film & cream +Biopatch/Zonis**
- If still no improvement move to **Level5**



- **Mepitel film +antihistamines + Sorbaderm cream/film + Biopatch/Zonis** until settled then red film alone. If unavailable may need to try alternatives from list above

Issue Date: 17 th February 2020	Page 6 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

The Principles of Asepsis

Asepsis is defined as the absence of pathogenic (harmful) organisms.
The principles of asepsis/aseptic technique are:

- Reducing activity in the immediate vicinity of the area in which the procedure is to be performed
- Using an aseptic non touch technique (ANTT) to protect key parts and key sites
- Keeping the exposure of a susceptible site to a minimum
- Checking all sterile packs to be used for evidence of damage or moisture penetration
- Ensuring all fluids and materials to be used are in date
- Not re-using single use items
- Ensuring contaminated/non-sterile items are not placed in the aseptic field
- Ensuring appropriate hand decontamination prior to the procedure and at other necessary time throughout the procedure
- Protecting uniform/clothing with a disposable apron
- Using sterile gloves when required
- Knowing the difference and when to use standard ANTT or surgical ANTT
- Risk assess each procedure prior to commencement for either standard or surgical ANTT.

Issue Date: 17 th February 2020	Page 7 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

Steps to performing an aseptic dressing change – Surgical ANTT

- Indicated for complex procedures with many key parts and key sites
- Staff should be “bare below the elbow”
- Maintain an aseptic field throughout the procedure
- Decontaminate hands by washing with liquid soap and warm water or by applying alcohol hand rub, using the recommended technique.
- Don disposable apron and wearing gloves
- Decontaminate the trolley (or working surface to be used if trolley not available, e.g., in the patients home) with detergent and warm water or detergent wipes and dry.
- Assemble sterile procedure packs, e.g., dressing packs and equipment, check all items are in date and packaging is intact.
- Explain and discuss the procedure with the patient.
- Ensure patient is positioned both comfortably and so the area to be exposed is accessible without undue exposure.
- Open sterile procedure pack outer packaging, sliding the contents onto the top shelf of the trolley (or working surface).
- Add any extra items without compromising the prepared aseptic field, clean items if needed to be placed close by but not compromising the aseptic field.
- Lift the plastic waste disposal bag from the aseptic field carefully by its open end and holding one edge of the opening end, place the other hand into bag, hence covering the hand with an aseptic 'glove'. Using the aseptic 'glove', arrange items on the aseptic field.
- Attach the bag to the trolley, below the top shelf or on a nearby surface if in a patients home.
Decontaminate hands with alcohol hand rub,

Issue Date: 17 th February 2020	Page 8 of 31	Filename: GNUAPIPL1	Issue No: 2.5
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- Don non sterile gloves, remove old dressing and dispose of in disposal plastic bag. Decontaminate hands with alcohol hand rub
- Put on sterile gloves ensuring hands do not contaminate outer surface of the glove.
- Perform the procedure as directed, using the correct dressings to suit the patients individual needs
- Ensure equipment is discarded if it becomes contaminated.
- Dispose of all used items, including soiled dressings, into the plastic waste disposal bag and seal.
- Discard disposal waste bag into clinical waste bag.
- Remove gloves and apron and dispose of in clinical waste
- Decontaminate hands with alcohol hand rub; document all actions taken within the patients hand held records or electronically as required.

Standard ANTT

- Staff should be “bare below the elbow”
- Maintain a clean field throughout the procedure - protect key parts and key sites
- Decontaminate hands by washing with liquid soap and warm water or by applying alcohol handrub, using the recommended technique throughout the procedure.
- Don disposable apron and wear non sterile gloves, single use items should not be reused
- Mirrored precautions using non sterile gloves , a prepared clean field used to handle equipment by protecting key parts and key sites by holding non critical areas
- Simple procedures with few key sites and key parts

Care and Maintenance of a Peripheral Inserted Central Catheter (PICC).

Issue Date: 17 th February 2020	Page 9 of 31	Filename: GNUAPIPL1	Issue No: 2.5
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EXIT DRESSING CHANGE (Weekly) Band 2 and above support workers to use pre filled saline syringes only – Surgical ANTT

Weekly dressing change will incorporate weekly flush and possibly blood sampling

Action	Rationale
<p><u>Equipment required</u> Dressing Pack containing sterile towel, gauze and Gloves Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated wipes x2 Semi-Permeable transparent IV dressing Alcohol hand rub or gel Skin fixation device (e.g. grip-lok) if a Securacath device has not be used Small Melolite or non adhesive dressing Plastic apron Needleless connector Biopatch if indicated</p>	
<p><u>Care of Exit site</u></p> <ul style="list-style-type: none"> ▪ Dressing changes should be performed on a weekly basis or when dressing is dirty, wet or loose ▪ Maintain ANTT at all times. ▪ Inspect the catheter exit site for signs of skin discolouration or signs of infection. Please contact the hospital team who placed the catheter or the hotline service for advice if necessary. Refer to trouble-shooting guide. 	<p>To prevent infection Epic 3: 2017, To maintain the integrity of the exit site Exit site dressings are important in preventing trauma and the extrinsic contamination of the site of entry (Jones 2004).</p>
<ul style="list-style-type: none"> • Explain the procedure to the patient. Ensure that valid consent is gained. • Ensure working area is as clean as possible. • Ensure all equipment is available before commencing the procedure. 	<p>To prevent/reduce patient anxiety Maintain safety To minimise the risk of infection and catheter contamination.</p>
<ul style="list-style-type: none"> • Open pack, and prepare suitable aseptic field • Open all required equipment including suitable dressings to suit the patients individual needs – don non sterile gloves • Loosen the dressings taking care not to cause migration of the line by working 	<p>To allow for a sterile environment for accessing intravenous device.</p>

from the distal section of the line “ the dangly end”

SCISSORS SHOULD NEVER BE USED. Appeal dressing remover may be useful if the patient is sensitive

- Be aware that the fixation device/strip may also come off with the dressing
- When redressing a PICC without a Securacath keep the Grip-lok in place while the exit site has been cleaned and a clean securing tape has been applied close to the exit site to
- Maintain the position of the line and reduce migration, ALWAYS DOCUMENT THE EXIT LENGTH IN THE HAND HELD RECORDS.

Chlorhexidine based solutions are recommended (in alcohol) dependent on the availability and catheter manufacturers. Recommendations (DOH 2001).

To prevent accidental removal of the catheter and friction or trauma to the skin surface

Issue Date: 17 th February 2020	Page 11 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

- Remove the dressing using a non touch technique. Removed gloves
- Decontaminate hands
- Put on sterile gloves
- Place sterile towel as near as possible to the PICC catheter.
- Clean the catheter exit site with Chlorhexidine impregnated applicator, for lines with a Securacath lift the PICC up to allow for cleaning all around the exit site.
- The solution should be applied with gentle friction in a criss cross shape around the exit site.
- Clean the remainder of the line to the connector with a chlorhexidine wipes.
- Allow to dry.
- Fold the non-adhesive dressing into 1/2 so that it sits neatly beneath the Securacath device for comfort; place one of the securing tapes from the IV dressing across the wings of the line on the top of the non-adhesive dressing to prevent pressure, position line on the outer aspect of the arm towards the shoulder, check that the Securacath is not twisted or pulled to an angle which will cause discomfort, check with the patient that it is comfortable.
- Apply new PICC dressing over the exit site ensuring the exit site is covered but visible and the distal portion of the line is positioned through the ported section.
- Remove the needleless connector then scrub the hub of the line with a chlorhexidine wipe using some friction several times for at least 15 seconds, allowing to dry. Attach a new need free connector being careful not to over tighten
- Remove the dressing towel
- Remove gloves.
- Clear away equipment. Dispose of waste as per organisational policy.
- Wash Hands
- Documents care in patient's hand held records.

Alcoholic Chlorhexidine combines the benefits of rapid action and excellent residual activity (DOH 2001)

To prevent the Securacath device from granulating into the tissues beneath the PICC

Semi-permeable transparent IV dressings are well tolerated by patients (Campbell et al 1999, Treston-Aurand et al 1997, Wille 1993) and are easy to apply and remove (Wille 1997).

To reduce friction from the body or movement at the Ante-cubital fossa

Needless connectors need to be changed every 7 days according to the license of the product

Issue Date: 17 th February 2020	Page 12 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

Peripherally Inserted Central Catheter – 0.9% Sodium Chloride for injection for weekly maintenance Flush.

Note: Non registered nurses can only flush IV devices using a pre filled saline syringe. Surgical ANTT if part of weekly redressing routine

Action	Rationale
<p><u>Equipment Required</u> Dressing Pack containing sterile towel, gauze and gloves Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator/wipe 10ml pre-filled saline syringe Suitable transparent semi-permeable IV dressing Alcohol hand rub Plastic apron Needle free I/V access connector change weekly</p> <p>May require disinfectant cap if an inpatient</p>	<p>10ml syringes should always be used, smaller syringe sizes may damage the catheter (Hadaway 1998)</p>
<ul style="list-style-type: none"> • Before the procedure begins make sure that your hands are washed and dried thoroughly and that they continue to be decontaminated during the procedure. A plastic apron should be worn. • Explain the procedure to the patient. Ensure that valid consent is gained. • Maintain ANTT at all times. • Inspect the catheter exit site for signs of skin discolouration or signs of infection. Please contact the hospital team who placed the catheter or the hotline service for advice if necessary. Refer to trouble-shooting guide. • Ensure working area is as clean as possible. • Ensure all equipment is gathered before commencing the procedure • Open pack allowing inner pack to fall onto clean working area. • Create an aseptic field. • Ensure easy access to the needle free system. Remove if necessary 	<p>Maintain asepsis.</p> <p>Reduce risk of infection. To avoid contamination and to reduce risk of infection</p> <p>Reduce anxiety and improve patient compliance</p>

Issue Date: 17 th February 2020	Page 13 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

- Decontaminate hands.
- Put on sterile gloves.
- Place sterile towel as near as possible to the catheter.
- Scrub the hub of the needle free system with 2%Chlorhexidine impregnated wipe, rubbing from the top of the needle free connector to the sides. Do this three times using different parts of the wipe, over a period of at least 15 seconds. Allow to dry. If needle free connector is due to be changed, remove the old connector wipe the end of the line using a 2%Chlorhexidine impregnated wipe several times and allow to dry, then re- apply a sterile needle free connector
- Attach pre filled saline syringe, pull back to blush the saline with blood then inject the flush using a push/ pause action, clamping as the last ml of solution is instilled into the catheter. Remove the syringe and discard.
- Ensure that the catheter is secured with the distal portion of the line being covered with one piece of gauze for comfort over the lamp and secure with a transparent IV dressing.
- Remove dressing towel and discard. Remove gloves.
- Wash hands
- Clear away equipment disposing of waste as per organisational policy.
- Document care in patient's records.

Chlorhexidine based solutions are recommended (in alcohol) as per policy (DOH 2001).

There is no requirement to routinely withdraw blood and discard it prior to flushing (except prior to blood sampling although the first sample can be used for blood cultures (RCN 2010)).

There is an increased risk of infection and occlusion when withdrawing blood via a central venous catheter (RCN 2010), therefore for routine flushing of a line withdrawal and waste of blood is not required, to confirm placement of line pullback only to colour the saline

The pulsated flush creates turbulence within the catheter lumen, removing debris from the internal catheter wall (Goodwin & Carlson 1993, Todd 1998).

Positive pressure within the lumen of the catheter should be maintained to prevent reflux of blood (INS 2000).

Issue Date: 17 th February 2020	Page 14 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

Peripherally Inserted Central Catheter – Blood Sampling may be part of the weekly maintenance as Surgical ANTT

Action	Rationale
<p><u>Equipment Required</u> Dressing Pack containing sterile towel, gauze and gloves 10ml syringes x 2 Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator/wipe 10ml 0.9% Sodium Chloride for injection Alcohol hand rub Needle free I/V access connector</p> <p>Disinfectant cap may be required</p>	
<ul style="list-style-type: none"> ▪ Before the procedure begins make sure that your hands are washed and dried thoroughly and that they continue to be decontaminated during the procedure. A plastic apron should be worn. • Maintain ANTT at all times. • Explain the procedure to the patient. Ensure that valid consent is gained. • Inspect the catheter exit site for signs of skin discolouration or signs of infection, please contact the hospital team who placed the catheter for advice or ring the hotline for advice. Refer to trouble-shooting guide. • Ensure working area is as clean as possible. • Ensure all equipment is gathered before commencing the procedure. • Open equipment allowing inner pack to fall onto clean working area. • Create an aseptic field. • Ensure easy access to the needle free system. • Decontaminate hands. • Put on sterile gloves. • Place sterile towel as near as possible to the catheter. • Scrub the hub of the needle free system with 2%Chlorhexidine impregnated wipe, 	<p>Maintain asepsis.</p> <p>Reduce risk of infection. To avoid contamination and to reduce risk of infection</p> <p>Reduce anxiety and improve patient compliance</p> <p>Chlorhexidine based solutions are recommended (in alcohol) as per policy (DOH 2001)</p>

rubbing from the top of the needle free connector to the sides. Do this three times using different parts of the wipe, over a period of at least 15 seconds. Allow to dry

- Attach empty 10ml syringe into needle free system and aspirate at least 5-8mls of blood from the catheter. If unable to do so attach the syringe containing the saline solution to the needle free system gently flush with 1-2mls then aspirate blood from catheter. Discard blood aspirated as per policy - Note if taking blood samples when PN has been administered, following an IV infusion or for an INR sample at least 20mls of blood should be taken and dis-guarded before taking the sample.
- If taking blood for cultures DO NOT WASTE the first drawn blood.
- Attach an empty 10ml syringe and withdraw amount of blood required for analysis and immediately transfer into the relevant blood tubes using a transfer unit, while maintaining ANTT.
- Attach pre filled saline syringe then flush using a push/ pause action, clamping as the last ml of solution is instilled into the catheter.
- Remove the syringe and discard.
- Ensure that the catheter is secure and comfortable.
- Remove dressing towel and discard. Remove gloves.
- Wash hands
- Clear away equipment disposing of waste as per organisational policy.
- Document care in patient's records.
- Label sample bottles then transfer to the lab

The pulsated flush creates turbulence within the catheter lumen, removing debris from the internal catheter wall (Goodwin & Carlson 1993, Todd 1998).

Positive pressure within the lumen of the catheter should be maintained to prevent reflux of blood (INS 2000).

To prevent the sample result being inaccurate due to saline or other solutions from the line

Issue Date: 17 th February 2020	Page 16 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

Peripherally Inserted Central Catheter – Administration of antibiotics/additives/infusion – standard ANTT

Administer drugs or IV therapy as prescribed using correct diluent and rate of infusion.

Always use at least a 10ml syringe, never use force to flush the catheter.

Actio	Rationale
<p><u>Equipment Required</u> Gauze and gloves Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol or Chlorhexidine impregnated wipe 10ml syringes x 3 2 x 10ml pre filled saline syringes Alcohol hand rub Plastic apron Antibiotics/additives/infusion as prescribed</p>	
<ul style="list-style-type: none"> ▪ Before the procedure begins make sure that your hands are washed and dried thoroughly and that they continue to be decontaminated during the procedure. A plastic apron should be worn. • Maintain ANTT at all times. • Explain the procedure to the patient. Ensure that valid consent is gained. • Inspect the catheter exit site for signs of skin discolouration or signs of infection, please contact the hospital team or the Hotline service for advice. Refer to trouble-shooting guide. • Ensure working area is as clean as possible. • Ensure all equipment is gathered before commencing the procedure • Open equipment allowing inner pack to fall onto clean working area. • Create a sterile field. • Ensure easy access to the needle free system. • Decontaminate hands. • Put on sterile gloves if necessary. 	<p>To minimise risks of infection and contamination.</p> <p>Ensures patient compliance and reduces anxiety</p> <p>Maintain asepsis.</p>

- Place the filled syringe within clean field protecting key parts.
- Scrub the hub of the needle free system with Chlorhexidine impregnated wipe, rubbing from the top of the needle free connector to the sides. Do this three times using different parts of the wipe, over at least a 15 second period. Allow to dry.
- Attach pre filled saline syringe, aspirate enough blood to blush the saline solution then inject using a push pause action camping as the last ml of the solution is instilled into the catheter. Remove the syringe and discard.
- If unable to aspirate blood from the line **refer to the algorithm for persistent withdrawal occlusion** and if pain free or blood return is yielded continue to use the line.
- Administer IV antibiotics/additives/infusion as prescribed.
- Flush catheter again with pre filled saline syringe as previously. Ensure the catheter is secure and comfortable and the distal portion of the line including the clamp is wrapped in sterile gauze if an inpatient. Remove dressing towel and discard. Remove gloves. Wash hands
- Clear away equipment used. Dispose of contaminated waste as per policy.
- Document care in patient's records.

Chlorhexidine based solutions are recommended (in alcohol) dependent on the availability and catheter manufacturers recommendations (DOH 2001).

To check catheter patency and to remove residual solution from catheter.

The RCN Standards for infusion Therapy state, "the nurse should aspirate the catheter and check for blood return to confirm patency prior to the administration of medications and/or solutions (INS 2000). On no account should a vesicant drug or vesicant infusion be administered through a vascular access device where difficulty is experienced in withdrawing blood or flushing the line (Masoorli 2003).

The pulsated flush creates turbulence within the catheter lumen, removing debris from the internal catheter wall (Goodwin & Carlson 1993, Todd 1998).

Positive pressure within the lumen of the catheter should be maintained to prevent reflux of blood (INS 2000).

Issue Date: 17 th February 2020	Page 18 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

Disconnection of Ambulatory Chemotherapy (Infusor/ Infuser) from Central Venous Access Device – standard ANTT risk assess first by use Surgical ANTT

<i>Action</i>	<i>Rationale</i>
<p><u>Equipment Required</u> Dressing Pack containing sterile towel, gauze and gloves if required Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated wipe 10ml pre filled saline syringe Alcohol hand rub, Needle-free system Plastic apron Plastic bag for empty cytotoxic chemotherapy infuser Luer lock stopper for Infuser</p>	
<ul style="list-style-type: none"> • Explain procedure to the patient. Ensure that valid consent is gained. • Before the procedure begins make sure that your hands are washed and dried thoroughly and that they continue to be decontaminated during the procedure. A plastic apron should be worn. <ul style="list-style-type: none"> ▪ Maintain ANTT at all times ▪ Ensure that the working area is as clean as possible. ▪ Ensure that all equipment is gathered before commencing the procedure ▪ Open equipment allowing the inner pack to fall onto the clean working area. ▪ Create an aseptic field ▪ Decontaminate hands ▪ Put on sterile gloves. If necessary protect key parts ▪ Place sterile towel as near as possible to the catheter ▪ Close catheter clamp. Using a 2% Chlorhexidine wipe to clean the catheter end, allow to dry. ▪ Hold the catheter with gauze; disconnect Infuser from the access device, while holding a sterile piece of gauze attach the luer lock stopper to the end of the Infuser 	<p>Ensures patient compliance and reduces anxiety</p> <p>Reduce the risk of infection, to avoid contamination</p> <p>To maintain asepsis</p> <p>Luer lock stopper will prevent leakage of chemotherapy from infusor this is now a sealed unit.</p>

tubing while maintaining sterility of the gloves

- Scrub the hub of the needle free system with a Chlorhexidine impregnated wipe, rubbing from the top of the needle free connector to the sides. Do this three times using different parts of the wipe, over a period of at least 15 seconds. Allow to dry.
- Attach a pre filled saline syringe and flush with push pause action, clamping as the last ml is instilled. Ensure that the catheter is secure and comfortable so that the distal portion of the line is covered with sterile gauze over the clamp and a transparent dressing to fully secure.
- Remove dressing towel and discard.
- Place infuser in the plastic bag clearly labelled cytotoxic waste.
- Remove gloves. Wash hands
- Clear away equipment used. Dispose of contaminated waste as per organisational policy.
- Document care in patient's records.
- Patient should be asked to return the empty chemotherapy infuser to the hospital on their next visit

Issue Date: 17 th February 2020	Page 20 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

PICC Removal Surgical ANTT

Action	Rationale
<p><u>Equipment Required</u> Dressing Pack containing sterile towel, gauze and gloves Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator/wipe Suitable small dressing Sterile scissors Alcohol hand rub Plastic apron Confirmation for line removal</p>	<p>Maintain asepsis</p> <p>To ensure the line is only removed when necessary</p>
<ul style="list-style-type: none"> ▪ Before the procedure begins make sure that your hands are washed and dried thoroughly and that they continue to be decontaminated during the procedure. A plastic apron should be worn. • Maintain ANTT at all times. • Explain the procedure to the patient. Ensure that valid consent is gained. • Ensure working area is as clean as possible. • Ensure all equipment is gathered before commencing the procedure • Open pack to fall onto clean working area. • Create an aseptic field. Open remaining equipment ensuring no contamination • Decontaminate hands. • Put on non-sterile gloves and remove the dressings, then remove gloves and decontaminate hands. • Put on sterile gloves. • Place sterile towel as near as possible to the catheter. • Clean around the catheter exit site with a 2% Chlorhexidine impregnated applicator and allow to dry • Remove the top section of the Securacath Device (follow directions) 	<p>Maintain asepsis.</p> <p>Reduce risk of infection. To avoid contamination and to reduce risk of infection</p> <p>Reduce anxiety and improve patient compliance</p> <p>Chlorhexidine based solutions are recommended (in alcohol) as per policy (DOH 2001).</p>

Issue Date: 17 th February 2020	Page 21 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

Step 1 for removing a Securacath

- Remove cover by placing finger under the device to stabilise
- Grasp tab on cover with other hand



Step 2

- Lift tab to completely detach cover from anchor base

There is no requirement to routinely withdraw blood and discard it prior to flushing (except prior to blood sampling although the first sample can be used for blood cultures (RCN 2010)).

There is an increased risk of infection and occlusion when withdrawing blood via a central venous catheter (RCN 2010), therefore for routine flushing of a line withdrawal and waste of blood is not required, to confirm placement of line pullback only to colour the saline

The pulsated flush creates turbulence within the catheter lumen, removing debris from the internal catheter wall (Goodwin & Carlson 1993, Todd 1998).

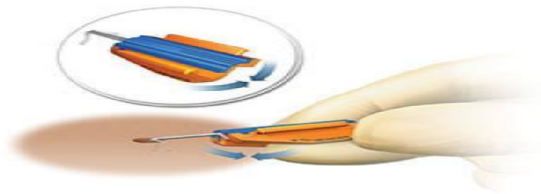
Positive pressure within the lumen of the catheter should be maintained to prevent reflux of blood (INS 2000).

Issue Date: 17 th February 2020	Page 22 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:



Step 3

- Gently and steadily remove the catheter while covering the site with gauze to prevent splashes to the face of the practitioner with blood products

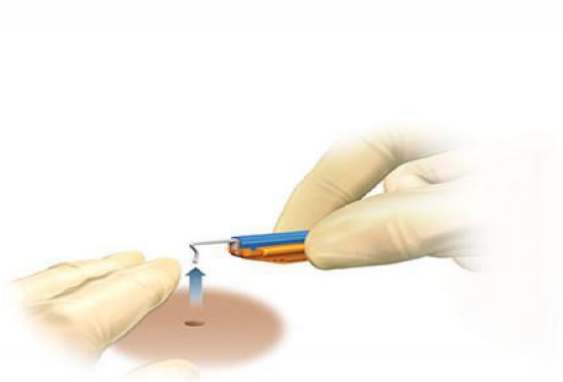


Option 1 - Fold Base

- Fold edges of anchor base downward

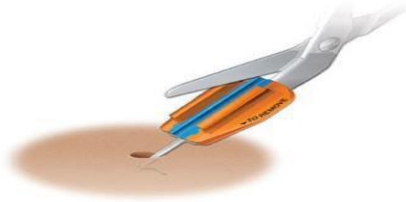
Issue Date: 17 th February 2020	Page 23 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

- Place third finger under back edge of device to help begin folding motion



- Place a piece of gauze near the insertion site to stabilise the tissue
- Hold folded anchor base horizontal to the skin, then simultaneously lift the anchor vertically up out of the insertion site using a swift, deliberate upward tug to remove the anchor as downward pressure is put on the piece of gauze at the exit site to remove the anchor

Option 2 - Cut Base



- Use blunt sterile scissors to cut the anchor base in half lengthwise along the groove

Issue Date: 17 th February 2020	Page 24 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

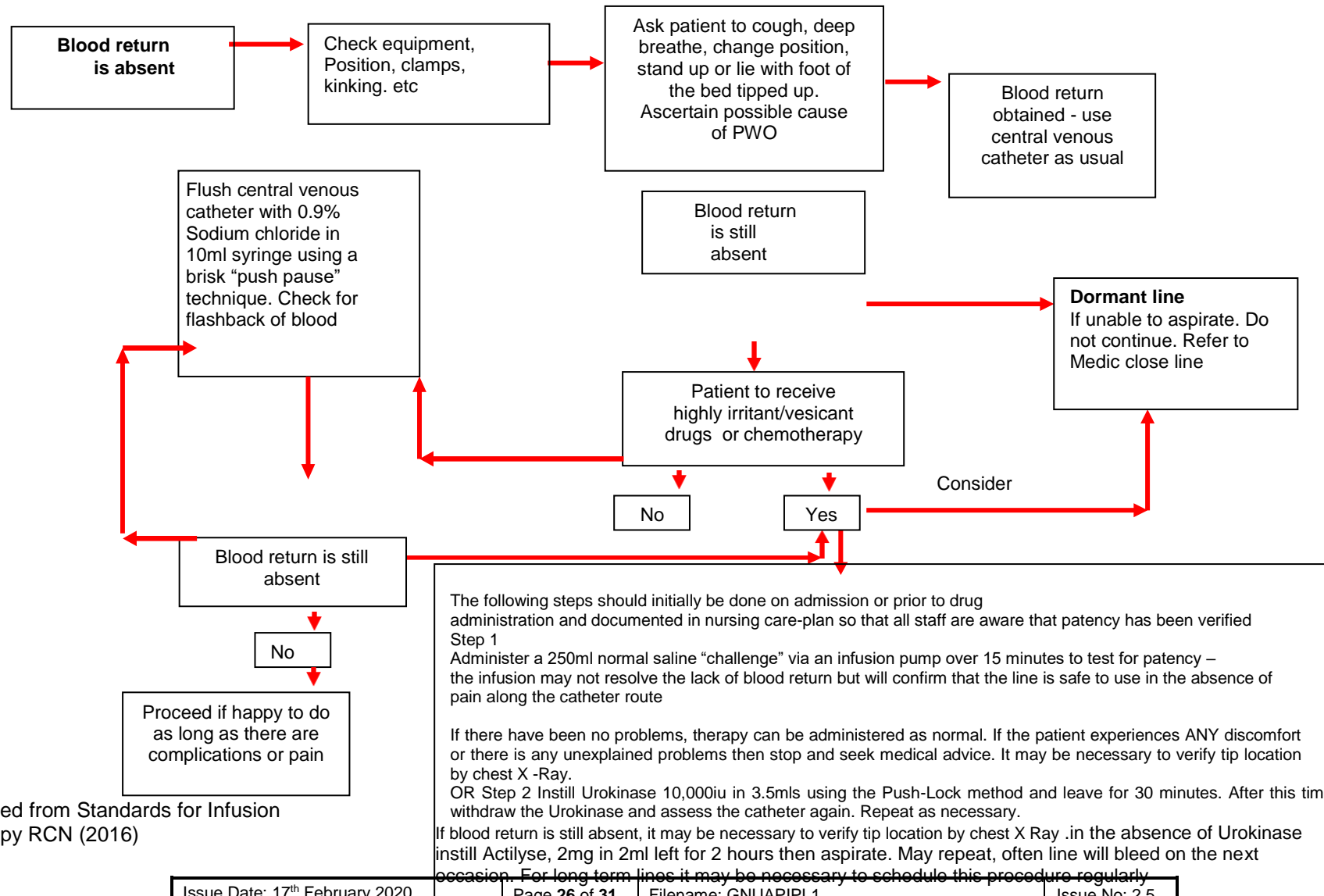


- Place one hand near the insertion site to stabilise the tissue
 - Then either gently remove each separate half from the skin maintaining the natural angle of each side out of the skin or use a swift, deliberate tug to remove each half of the anchor base separately
 - The flexible anchor will straighten as it is pulled out and will not cause tearing of trauma to the tissue
 - Place a clean small occlusive dressing i.e. Opsite to cover the exit site
-
- Remove dressing towel and discard. Remove gloves.
 - Wash hands
 - Clear away equipment disposing of waste as per organisational policy.
 - Document care in patient's records.

Issue Date: 17 th February 2020	Page 25 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

Algorithm persistent withdrawal occlusion

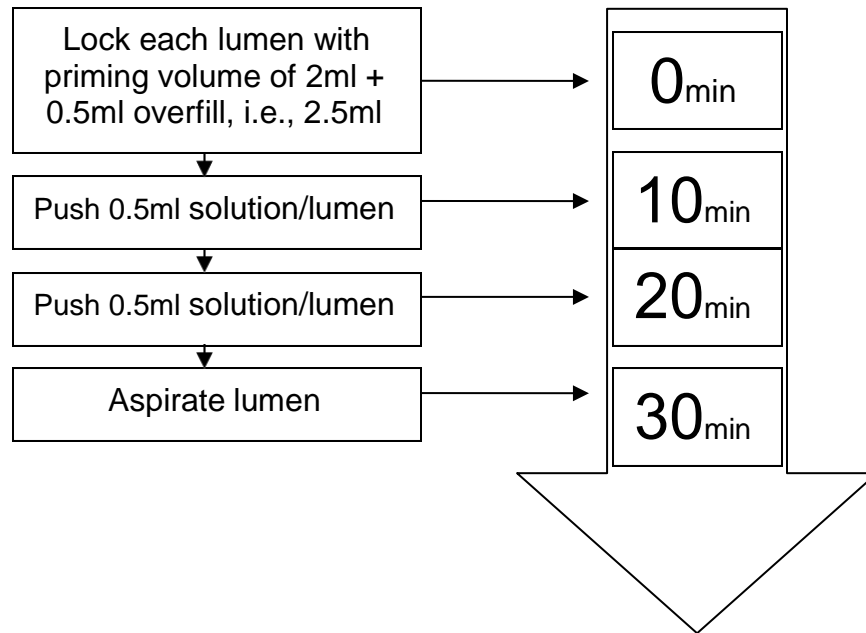
i.e. fluids can be infused freely by gravity but blood cannot be withdrawn



Adapted from Standards for Infusion Therapy RCN (2016)

Issue Date: 17 th February 2020	Page 26 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

The Push-Lock Method: Reconstitute a 10,000IU vial of Urokinase using 3.5ml of 0.9% sodium chloride for each lumen.

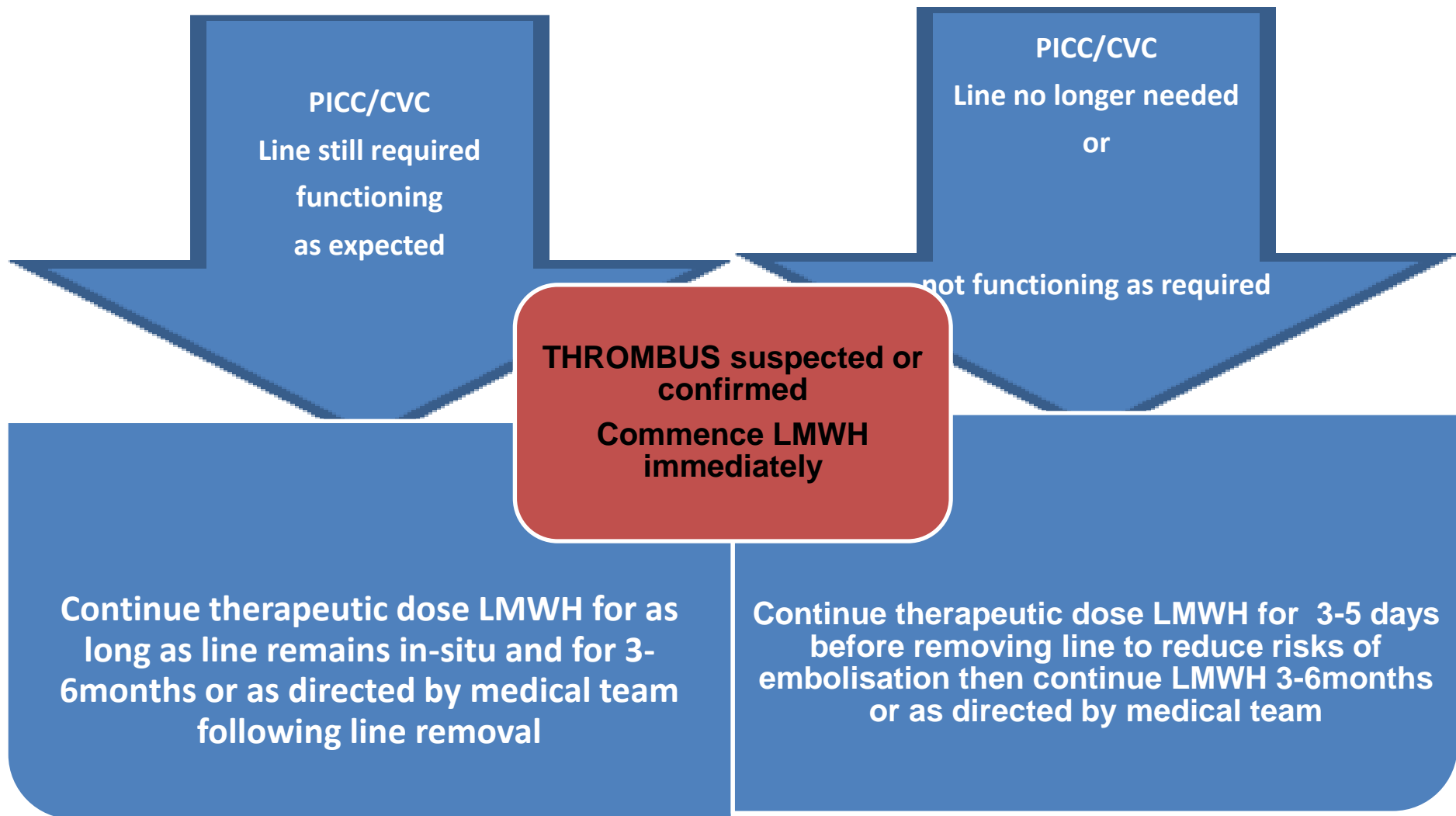


Following this Urokinase procedure it may be necessary to repeat the fluid challenge using, 250mls 0.9% Sodium Chloride over 15minutes, then try to yield blood.

This procedure may be repeated once more on the same day; if PWO persists. In the absence of Urokinase use Actilyse 2mg in 2ml instill for 2 hours then aspirate, this may be repeated. This may need to be scheduled on a regular basis for long term lines to maintain blood yield and patency.

Algorithm for the management of Upper Extremity Deep Vein Thrombosis (UEDVT)

Issue Date: 17 th February 2020	Page 27 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:



Issue Date: 17 th February 2020	Page 28 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

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Issue Date: 17 th February 2020	Page 29 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

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Issue Date: 17 th February 2020	Page 30 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No:

Guideline recommendations

The guidelines within this document should support the intravenous care and management of adults, for guidance on the care of children please refer to the CINs paediatric guidelines. For guidance on the care of infants consult with your local paediatric specialists.

When using Alcohol Chlorhexidine where available use 2% in 70% Isopropyl alcohol. Recommend Chlorprep one step (Chlorhexidine Gluconate 2% in Isopropyl alcohol 70%) for cleaning the skin prior to line insertion and for routine line maintenance.

When Catheters are not in use they should be flushed with 10ml sodium chloride 0.9%. . This should be performed on a weekly basis following the maintenance guidelines.

For needle-free connectors, manufacturers' guidance should be followed re length of time to remain in situ. Recommend needle-free systems that are changed minimum of every seven days.

Reminder that hands must be washed and dried thoroughly before putting on disposable gloves and after removing sterile gloves.

If there is sensitivity to Chlorhexidine solution, Providone Iodine may be used as an alternative.

Ensure all interventions are recorded in the patient's records as per organisational policy

Biopatch antimicrobial dressing with Chlorhexidine Gluconate (Johnson & Johnson) is recommend for use in patients with increased risk of line infection.

The securement Securacath device is used to prevent migration and to improve the cleansing at the exit site. It is necessary to lift the line up and down each dressing change to prevent granulation of tissue into the clip so that removal will be trouble free.

Issue Date: 17 th February 2020	Page 31 of 31	Filename: GNUAPIPL1	Issue No: 2.5
Author: Carol McCormick	Authorised by: Integrated Care Directorate Meeting		Copy No: