Southern Health and Social Care Trust

Quality Care - for you, with you

Peripheral Cannulation

Guidelines in Adults

CLINICAL GUIDELINES – CHECKLIST	
Name of guidelines	Peripheral Cannulation Guideline in Adults
Purpose of guideline	To guide staff in the insertion and management of peripheral vascular catheters in adults.
Director responsible :	Medical Director
Name and title of author:	IPCT
Date:	October 2017
Consulted upon:	**YES**
Approved by:	HCAI Clinical Forum
Review Date ***(Every 2 years or sooner if required):***	October 2019

Peripheral Cannulation Guidelines for Adults

Medical Director
Date – June 2015Version - 1

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1. Introduction

Peripheral Vascular Catheters (PVCs) are the most commonly used invasive medical devices within all acute care settings. The use of PVCs is necessary to provide vascular access for the administration of fluids and drugs that cannot be given by any other route e.g. oral.[i]

Despite the many advantages of their use, PVCs can result in complications including insertion site phlebitis, catheter related blood stream infections (CRBSIs) and even death.

PVCs should only be inserted when they are clearly indicated. When they are inserted Aseptic Non-Touch Technique (ANTT) should be used to reduce the risk of infection.[ii]

2. Purpose and Aims

The aim of this guideline is to consolidate current Trust guidelines regarding the safe insertion, management and removal of peripheral vascular cannulas.

3. Scope of the guideline

This guideline applies to all healthcare workers employed within the Southern and Social Care Trust (SHSCT) and others working in a contracted capacity.

4. Guideline Statements and Procedures

Peripheral vascular cannulas are necessary to provide vascular access for the administration of fluids and drugs that cannot be given by any other route. Such access however can also provide microorganisms with direct access to the bloodstream.
When inserting PVCs it is imperative staff take every step to reduce the risk of such infection therefore;

1. Competent practitioners should insert a PVC.
   or
   Staff learning this skill must be under direct supervision of a competent practitioner when inserting a PVC.

2. PVCs should only be inserted when they are clinically required and the reason recorded on the peripheral cannula chart. Prior to insertion other routes of administration should be considered.

3. Individual practitioners should make no more than two attempts at cannulation, except during an emergency or when an experienced (not necessarily more senior) clinician is not available.

4. Every area should develop and implement escalation procedures to minimise patient harm when difficulty arises during insertion of a PVC. These procedures must ensure that intravenous access can be obtained in a timely manner.

5. When repeated or prolonged administration of chemical irritants is required, central venous access should be considered, to avoid peripheral vein damage.[iii]

6. The site at which a catheter is placed influences the risk for catheter-related infection and phlebitis. For adults, lower extremity insertion sites are associated with a higher risk of infection than are upper extremity sites. In addition hand veins have a lower risk for phlebitis than do veins on the wrist or upper arm.[iv]

7. Hand hygiene is an integral part of the insertion of peripheral vascular cannulas. Staff should follow the 7 step technique. Hand decontamination is indicated as per World Health Organisation's (WHO) '5 Moments for Hand Hygiene as per Trust protocol in addition to the steps laid out in this procedure.

8. Except in an emergency the following should be done before inserting a PVC:
   - Correctly identify the patient
   - Explain the procedure and obtain their verbal consent.
   - Check whether the patient has allergies to skin antiseptics or dressing materials

9. Select the most appropriate vein for insertion of the PVC. Points to consider include:
   - Size and condition of patient's veins
   - Indication for PVC and expected duration of PVC
   - Position of patient during any planned procedure(s)
   - Use non-dominant forearm if practical
   - Use basilic or cephalic veins on the posterior (dorsal) forearm if possible
   - The metacarpal veins on the dorsum of the hand are easier to visualise but are more liable to clot, difficult to stabilise, and prone to vessel damage
   - In patients with chronic renal failure, the use of the anterior (ventral) forearm veins (especially the cephalic vein) should be avoided, as these may be required for fistula formation for dialysis.

10. Avoid the use of veins in the following sites, if possible:
    - Areas of flexion, e.g. antecubital fossa, or bony prominences
        - Uncomfortable as this requires splinting
        - Vein easily damaged
    - Areas below previous cannulation site
        - Vein may be damaged
    - Bruised or phlebitic areas
        - Poor venous return
        - Pieces of clot can be dislodged into the system
    - A limb with an arteriovenous fistulae or shunt
        - May compromise haemodialysis access
    - An arm on the same side as a previous lymph node dissection, mastectomy or affected by cerebrovascular accident
        - Poor venous and/or lymphatic return
    - An infected limb e.g. with cellulitis
    - A limb with a peripherally inserted central catheter (PICC) or implanted venous access device (port-a-cath)
    - Lower limbs
        - Risk of deep vein thrombosis
        - Limits access, patient comfort and mobility.

11. The size of the PVC should be determined by the intended use (e.g. blood and blood products, drug therapy, hydration etc), the condition of the patient's veins, likely length of time PVC is expected to remain in-situ and the insertion site. The PVC should be the shortest and smallest gauge that can meet the anticipated clinical need.[v] See Appendix 1.

12. An ANTT approach is to be used for the clinical procedure

http://vsrintranet.southerntrust.local/SHSCT/HTML/Infection%20Prevention/documents/StaffAALanscape.pdf

Clinical Procedure

PVC insertion is a process of short duration with a small number of key parts a standard ANTT approach is applied.

Establish the clinical need for the insertion of PVC and decide on the site of insertion. To follow aseptic technique, clinicians should avoid touching:

- The insertion site after decontamination
- Sterile parts of the PIVC (i.e. shaft and tip)
- Other sterile equipment.

Preparation Zone

1. Consent the patient
- Assess the veins visually
- Ask the patient or the nurse to clean the hand and arm

Trolley process

2. Clean hands with alcohol hand rub or soap and water

3. Clean the IV trolley (if the trolley is unavailable in an emergency the designated plastic IV tray).

Do NOT use trays that cannot be decontaminated.

- If trolley top and rails are visibly contaminated use a detergent wipe to clean the trolley. First clean the rails of the trolley; clean in one direction only do not go back and forth, discard wipe.
- Take a second detergent wipe to clean the top of the trolley; clean in a zig zag motion, discard wipe.
- Dry all cleaned parts.
- Now repeat the process using 70% alcohol wipes and allow the trolley to dry before placing the equipment on the top of the trolley (keep all equipment to one side).
- Should the trolley be visibly clean the use of a 70% alcohol wipe as above is sufficient to provide disinfection of the surfaces.

4. Begin by reviewing the trolley for all items you will need for the procedure. Check the trolley sides to ensure that hand rub, sharps bin and gloves are available

Gather the required items of equipment and place them on top of the trolley.

- Chlorhexidine 2%/ isopropyl alcohol 70% wipes
- Disposable tourniquet
- Sterile field
- A variety of PVCs
- Appropriate transparent occlusive dressing
- 0.9% sodium chloride solution 10mL and syringe or prefilled PosiFlush syringe maybe used as per guidance; ensuring the ‘KEY PARTS’ are protected as per ANTT principles
- Extension set – use the catheter with the minimum number of ports or lumens necessary for the management of the patient

5. Clean hands with alcohol hand rub or soap and water
6. Prepare flush and prime extension set using non touch technique. Prime extension set with 0.9% sodium chloride while retained in the sterile pack (This allows for protection of the key part and serves as a micro critical field).

Before entering the patient zone apply apron. It is necessary at this stage to also risk asses for use of a fluid repellent gown, eye/face protection which may be needed if there is high risk of splashing from blood or body fluids.

Enter the Patient Zone
7. Take trolley along to the patient's bedside. Position arm on a pillow and position a sterile drape under the patient's arm.
8. Apply disposable tourniquet, locate vein, release tourniquet.
9. Clean hands with alcohol hand rub or soap and water.
10. Re-tighten tourniquet.
11. Apply gloves. (Use sterile gloves if there is any risk that key-parts or key-sites could be touched; touching key parts is discouraged if possible).
12. Clean site for 30 seconds using Chlorhexidine 2%/ isopropyl alcohol 70% wipes, using strokes back and forth and left to right and allow to dry.
13. Anchor vein below puncture site and insert cannula using non-touch technique and secure. The PVC can best be stabilised with sterile adhesive tape from the dressing pack to prevent dislodgement. Avoid placing tape over the insertion site

Decontamination Zone.
14. Dispose of sharps.
15. Using no-touch technique attach extension set, flush device, use transparent semi-permeable dressing and fixation device.[vi] Use a sterile gauze dressing if a patient has profuse perspiration or if the insertion site is bleeding or leaking, and change when inspection of the insertion site is necessary or when the dressing becomes damp, loosened or soiled. Replace with a transparent semi-permeable dressing as soon as possible. [vii]

Documentation
1. The operator now commences the peripheral line chart before leaving the patient.
2. Fill in all details, ensuring the body map is completed and a printed signature is achieved by the operator.
3. If cannulation has been difficult this should be noted on the peripheral cannula chart for information should recannulation be required at any stage.

16. Now dispose of equipment and clean tray using a detergent wipe.
17. Dispose of gloves
18. Immediately clean hands with alcohol hand rub or soap and water. [viii]

http://vsrintranet.southerntrust.local/SHSCT/HTML/Infection%20Prevention/documents/CannulationGuideline.pdf

Trust guidance recommends using chlorhexidine 2%/ isopropyl alcohol 70% wipes. For patients with a history of chlorhexidine sensitivity/allergy 5% povidone iodine in 70% ethanol should be used.[ix]

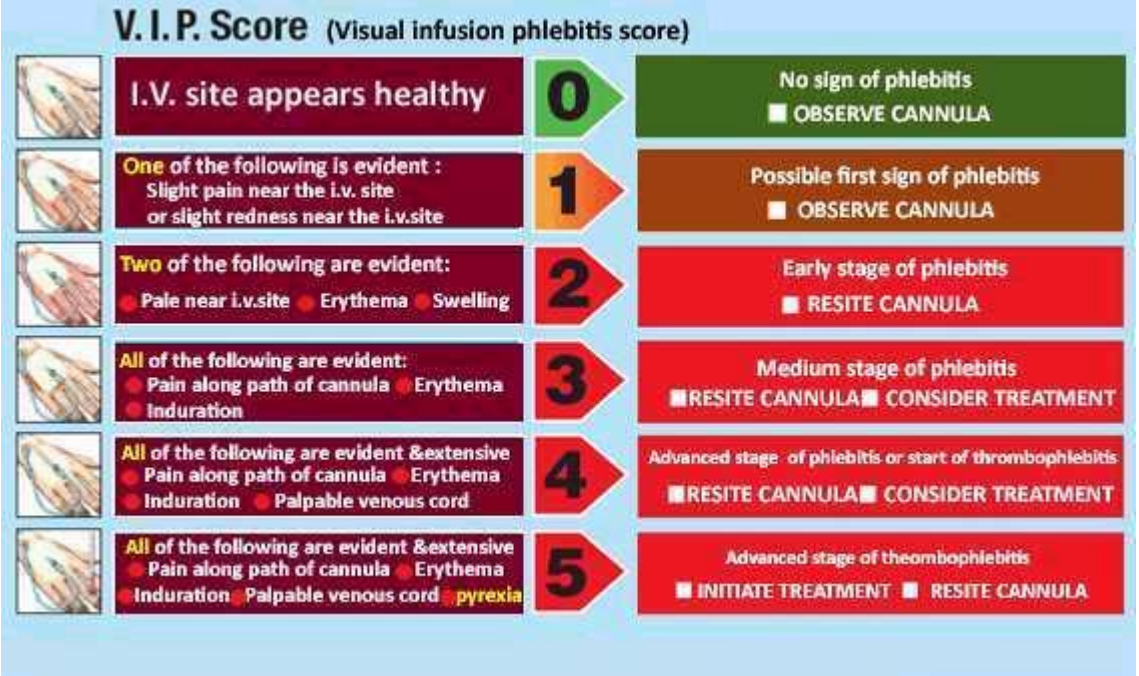
Peripheral Cannula Management

High quality ongoing management of peripheral cannulas once they have been inserted is critical in preventing harm to patients.

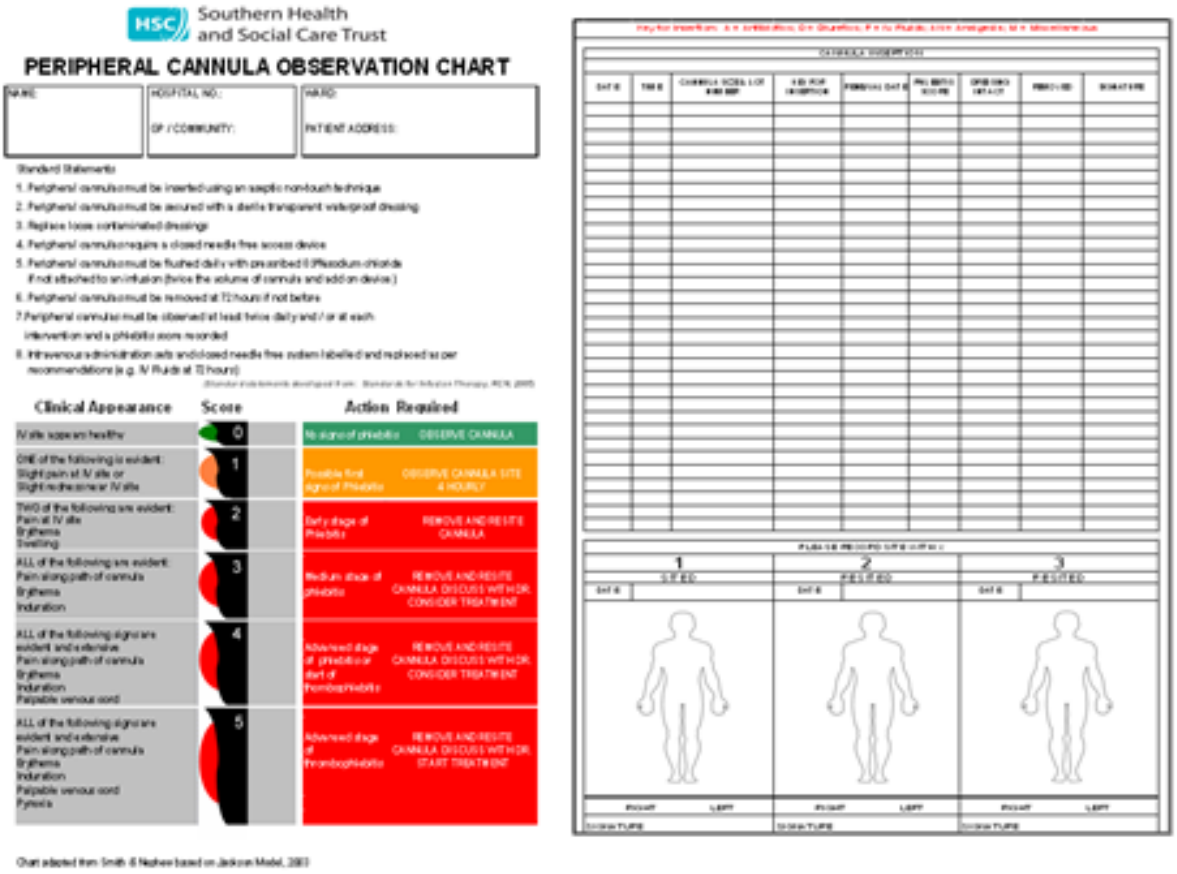
The key recommendations and their scientific grade of evidence, for a PVC maintenance quality improvement tool laid out by Health Protection Scotland now are:-

• Ensure that the clinical need for the PVC is reviewed and recorded every day (on a daily basis) (Category 1A) *
• Ensure that medical staff review the need for intravenous (IV) therapy including antibiotics on a daily basis - switch to oral if possible (Category 1B)
• Ensure that hand hygiene is performed immediately before accessing the line/site (WHO Moment 2) (Category 1A)
• Ensure that timely removal of PVCs is considered i.e. if in longer than 72 hours Category 1B)
• Ensure that the PVC site is assessed; removing the PVC where there is phlebitis or other inflammation at the site (Category 1B)
• Ensure that PVC dressings are intact (Category 1A)
• Ensure that an antiseptic is used to clean the access hub before accessing – rub the access hub for at least 15 seconds ('scrub the hub') (Category 1B). The trust uses a Chlorhexidine 2%/ isopropyl alcohol 70% wipe [x]

1. The SHSCT uses a peripheral cannula observation chart on all patients to record key parameters



Any cannula that has tissued or shows signs of phlebitis or other inflammation at the site should be removed immediately (Peripheral Cannula Observation Chart scores 2-5). Peripheral Cannulas at score 1 may be retained **if they are observed 4 hourly and should be removed if they progress to score 2 or above**.



Southern Health and Social Care Trust

PERIPHERAL CANNULA OBSERVATION CHART

Clinical Appearance	Score	Action Required
IV site appears healthy	0	No signs of phlebitis — OBSERVE CANNULA
ONE of the following is evident: Slight pain at IV site or Slight redness near IV site	1	Possible first signs of Phlebitis — OBSERVE CANNULA SITE 4 HOURLY
TWO of the following are evident: Pain at IV site, Erythema, Swelling	2	Early stage of Phlebitis — REMOVE AND RESITE CANNULA
ALL of the following are evident: Pain along path of cannula, Erythema, Induration	3	Medium stage of phlebitis — REMOVE AND RESITE CANNULA. DISCUSS WITH DR. CONSIDER TREATMENT
ALL of the following signs are evident and extensive: Pain along path of cannula, Erythema, Induration, Palpable venous cord	4	Advanced stage of phlebitis or start of thrombophlebitis — REMOVE AND RESITE CANNULA. DISCUSS WITH DR. CONSIDER TREATMENT
ALL of the following signs are evident and extensive: Pain along path of cannula, Erythema, Induration, Palpable venous cord, Pyrexia	5	Advanced stage of thrombophlebitis — REMOVE AND RESITE CANNULA. DISCUSS WITH DR. START TREATMENT

Chart adapted from Smith & Nadrew based on Jackson Model, 2001

3. It is the responsibility of the transferring and accepting teams to communicate any peripheral cannulas in-situ, highlighting those that have had to be inserted under emergency conditions.

4. Any cannula that has had to be inserted under emergency conditions must be removed or replaced within 24 hours.

6. It is Trust policy that peripheral cannulas be replaced **every 72 hours**. This follows the Health Protection Scotland PV maintenance quality improvement tool which likewise currently recommends that consideration should be given to removal of PVCs in situ longer than 72 hours.

This is based on evidence which showed that the longer a PVC is in situ the greater the risk of complication. A recent study examined the effect of increasing the routine replacement from 48-72 hours to 72-96 hours, and although it concluded that this extension was not a risk factor for complication, e.g. phlebitis or infection, it was noted that the absence of a dedicated intravenous (IV) team was a risk. Further uncertainties have arisen resulting from a recent debate regarding the routine removal of PVCs after 72 or 96 hours versus removal only when clinically indicated. A Cochrane review has been published which concluded that there was insufficient evidence of benefit from routinely removing catheters every 72 to 96 hours and suggested that catheters including PVCs, should be changed on clinical indication. CDC guidelines state that replacement of PVCs in adults as clinically indicated is an unresolved issue and cites insufficient current evidence specifically on CRBSIs to

recommend this. Conversely, recent epic3 HAI guidelines from England recommend that PVCs should be replaced only when clinically indicated, following the Cochrane Review evidence of 2014. Due to the ambiguous nature of these recommendations, the evidence which underpins the Cochrane review was further reviewed and critically appraised by Health Protection Scotland to determine if it could impact on this key recommendation. Further examination of the evidence underpinning the recommendations that PVCs should be changed when clinically indicated reveals that it stems largely from studies carried out in Australia and the majority used a dedicated intravenous (IV) team in their studies.

Health Protection Scotland concluded that as dedicated intravenous teams are rare within NHS Scotland there is not sufficient evidence to suggest that moving away from routine to clinical indication replacement of PVCs would not result in increased CRBSIs. The SHSCT likewise lacks a dedicated intravenous team. As a result it is the guidance of the Infection Prevention and Control Team that **peripheral venous cannulas should be routinely replaced at 72 hours**.[xi]

7. In order to minimise the risk of CRBSI it is critical that peripheral vascular catheters are not kept in any longer than necessary.

- If for any reason a cannula cannot be replaced at 72 hours the PVC may be retained provided that there are no signs of inflammation however consideration should be given at every opportunity (at least daily) as to whether there is an ongoing need for intravenous access and whether fluids/medications could be switched to another route
- The reason for this should be documented in the medical and nursing notes and the frequency of monitoring should be increased to 4 hourly.
- This should only be considered if replacement has been identified as difficult and the risk is judged to be greater than retention and if the PVC is likely to be needed for another 24 hours or less.
- **If there is any difficulty in cannula placement this should be documented clearly at the time of insertion.**
- Nursing staff should be empowered to remove peripheral cannulas they believe to be unnecessary as a matter of course.
- In exceptional circumstances, such as in patients with very poor access, clinicians should identify lines that they do not want nurses to remove. These decisions should be documented and highlighted to the nurse looking after the patient.

8. Hand hygiene must be performed immediately before accessing the line/site (Moment 2), as per WHO Guidelines on Hand Hygiene in Health Care (2009).

9. When PVCs are reviewed staff must ensure that dressings are intact.. It is recommended that transparent, semi-permeable dressings are used to cover the catheter site, while assessment of the PVC site occurs by inspection through the transparent dressing. If the dressings are not intact or have become loosened this increases the risk of microorganisms gaining entry via the PVC. Therefore dressings should always be replaced if damp, loosened or visibly soiled.

If the PVC dressing needs to be changed:

- Perform hand hygiene
- Use aseptic technique including sterile dressing pack, drape and gloves
- Use care when removing old dressing to avoid dislodgement of cannula
- Remove blood or ooze from insertion site with sterile 0.9% sodium chloride
- Decontaminate the area with 2% chlorhexidine and alcohol (over an area slightly larger than the final dressing) for at least 30 seconds and allow to air dry prior to applying the new sterile dressing (do not wipe or blot).[xii]

'Scrub the hub'

11. An antiseptic wipe containing Chlorhexidine 2%/ isopropyl alcohol 70% should be used to clean the access hub before accessing the peripheral cannula. The access hub should be rubbed for at least 15 seconds. Open up the whole wipe to its largest size and scrub the hub alternating to all areas of the wipe

It has been previously reported that hubs and connection points are generally contaminated and must be disinfected before being accessed by healthcare workers (HCWs). This is a microbiologically driven recommendation, given the evidence with regards to known contamination and effectiveness of cleansing, as well as the obvious potential for PVC connectors to become easily contaminated and pose a risk of infection on a day to day basis.

12. Patients should be advised:

- Not to touch the insertion site or dressing
- If used, avoid touching the roller clap or infusion pump
- Minimise excessive movement whilst the PVC is in situ
- Notify staff if pain, swelling or redness at the PVC site is experienced.[xiii]

13. Where a continuous flow of intravenous fluids through PVCs is not needed then the PVC should be flushed:

- After the PIVC is inserted to confirm correct placement
- Before each medication/infusion is given (to ensure the PIVC is still patent)
- In between serial/multiple infusions and between medications to prevent interreactions and incompatibilities
- After each injection/infusion (to remove irritant material from the vein)
- For inpatients, at least every 24 hours if not otherwise used (note: consider if the PVC needs to stay in).[xiv]

Perform hand hygiene before accessing the PVC or tubing.

Scrub the tubing access port with a Chlorhexidine 2%/ isopropyl alcohol 70% wipe and allow to air-dry before accessing the tubing or connecting new tubing.

When flushing PIVCs:

Use prescribed sterile 0.9% saline (prefilled PosiFlush syringe maybe used as per guidance; ensuring the 'KEY PARTS' are protected as per ANTT principles)

- Use a 10ml syringe to help avoid excessive pressure
- Do not use excessive force – use a 'push/pause' technique.
- Use aseptic technique at all times.[xv]

14. Disconnection of IV Administration Sets

- IV administration sets must not be disconnected for routine care, but may be disconnected for emergency access or if investigations are needed that preclude their use.
- Any disconnection of an IV administration set requires that the old administration set and infusion be discarded and a new administration set and infusion bag be used.

The widespread practice of reconnecting partially used bags of intravenous fluids should not be done. Instead any unused solution should be discarded. The practice of reconnecting partially used bags increases the risk of;

- ❖ air embolism
- ❖ microbiological contamination of the fluid

15. Administration set replacement;

- After 72 hours
- Immediately after using blood or blood components
- Immediately after each bolus infusion

17. **Blood collection via PVCs in adults is not advocated. If necessary it may be done aseptically only immediately after insertion and the line must be flushed following use.**

Peripheral Cannula Removal

Peripheral vascular cannulas should be removed at 72 hours or earlier if no longer required. A new PVC should be inserted at a new site as soon as practical.[xvi]

1. Perform hand hygiene and don non-sterile gloves. Gowns, aprons, eye/face protection are indicated if there is a risk of splashing with blood or body fluids.
2. Remove the dressing. Clean site thoroughly with a Chlorhexidine 2%/ isopropyl alcohol 70% wipe and allow to air dry.
3. Withdraw the cannula and apply digital pressure with **sterile** gauze until haemostasis is achieved.
4. Inspect the PVC to ensure the whole device was removed and none has been retained in the patient.
5. Cover the site with a dressing. Sterile gauze can be used under the dressing if bleeding or discharge continues. Remove the dressing after 24 hours or, if the patient is discharged sooner, instruct the patient to remove the dressing.
6. **Observe the PVC site for 48 hours after removal** using the peripheral cannula observation chart to detect post-infusion phlebitis. If the patient is discharged within that period advise the patient who to contact if pain, swelling, discharge or bleeding at the site or systemic symptoms of infection develop.

7. Routine culturing of PVC tips is not recommended unless infection is suspected.
8. Advise the patient to notify staff if any swelling or discharge occurs at the insertion site after the PVC is removed.
9. Document the removal in the patient's peripheral cannula observation chart including the time and date; if the PVC was intact, whole and included the tip; and the condition of the site post removal.[xvii]

5. Application of guidelines

5.1 Dissemination

This guidelines should be disseminated to all line managers, all frontline medical and nursing staff and any allied health professionals such as phlebotomists who could potentially be involved in peripheral vascular cannulation.

5.2 Resources/Education and Training

Education and training in Infection Prevention and Control is a prerequisite for any health professional that comes into contact with patients, the patient environment or equipment.

All health professionals taking part in peripheral vascular cannulation should have training in this procedure and in ANTT.

6. ROLES/RESPONSIBILITIES

6.1 The Board and Chief Executive have a collective responsibility to ensure that patients receive the best possible care through the Southern Health and Social Care Trust.

6.2 Senior Managers within Directorates should
- ensure that staff have access to and training in these guidelines
- ensure that these guidelines are adhered to
- ensure that the rate of infection associated with peripheral vascular cannulas is minimized.
- independently verify compliance with this guideline and improve practice where this is required.

6.3 Ward Managers should
- ensure staff are provided with information, instruction and training with regard to peripheral vascular cannulation.
- ensure that staff have access to appropriate PPE and equipment for inserting and managing peripheral vascular cannulas.
- ensure that staff adhere to the procedures set out in this guideline.

- ensure that hand hygiene is carried out and audited in line with the regional healthcare hygiene and cleanliness audit tool.
- monitor compliance with this policy and ensure that results are fed back to relevant staff.
- ensure that adverse incidents are reported and managed as per Trust policy
- take responsibility for the rates of phlebitis and CRBSI in their units take steps to minimize it.
- to compare their rate of infection with other units within the Trust in order to identify any weaknesses
- assign link nurses to act as key stakeholders in achieving these targets.

6.4 Link Nurses should
- assist Ward Managers in achieving their responsibilities
- act as liaisons between the ward staff and the Infection Prevention and Control Team
- highlight any difficulties that may arise at a local level in the achievement of these goals.

6.5 All healthcare workers involved in the insertion and management of peripheral vascular cannulas within SHSCT should
- attend the relevant training for peripheral line insertion and management
- must be familiar with and adhere to the procedures set out in this guideline.
- should be competent in ANTT and in the procedures that they undertake.

6.6 The Medical Microbiology Laboratory Service including Medical Microbiologists should
- provide a timely diagnostic service for the processing of swabs and blood cultures pertaining to line sites infections/CRBSIs.
- ensure that wards or departments are informed of any positive results of blood cultures and provide a clinical advice service for the management of patients with bacteraemias.
- ensure that the Infection Prevention and Control Nurses are informed of all positive results of samples sent from hospital inpatients that are of infection control significance through the daily multidisciplinary meeting.
- monitor the rate of CRBSIs caused by *Staphylococcus aureus* in conjunction with the Public Health Agency.
- identify CRBSIs to the Infection Prevention and Control Team.
- provide feedback to clinicians regarding preventable CRBSIs through RCAs and M&Ms.
- ensure that the Public Health Agency is notified of blood cultures pertaining to alert organisms.

6.7 The Infection Prevention and Control Team (IPCT) should
- ensure that hand hygiene is independently audited in line with the regional healthcare hygiene and cleanliness audit tool.
- advise on infection prevention and control issues for individual patients.

- identify units where there is a concern about infection control practice pertaining to the presence of CRBSIs.
- inform the Trust Board about any concerns regarding PVC care or CRBSIs through the Medical Director.
- ensure that this policy is kept up to date

6.9 The Clinician responsible for the patient should
- ensure that this guideline is followed in the management of their patients.
- that the date, time, site and name of the person inserting the peripheral vascular cannula is documented along with the indication for the cannula.
- be responsible for the management of the patient including the safe management of patients with peripheral vascular cannulas and patients with CRBSIs secondary to peripheral cannulation.
- ensure that peripheral vascular cannulas are inserted by an aseptic non-touch technique and replaced/removed appropriately
- ensure that PVCs are reviewed daily and kept in only so long as they are absolutely necessary.

7. Evidence Base / References

Health Protection Scotland – "Targeted literature review: What are the key infection prevention and control recommendations to inform a peripheral vascular catheter (PVC) maintenance care quality improvement tool?" – 2014

NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – 2013

Centers for Disease Control - "Guidelines for the Prevention of Intravascular Catheter-Related Infections." – 2011

epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England – Journal of Hospital Infection 86S1 - 2014

8. Consultation Process

Senior Management Team
Ward Sisters
Lead Nurses
Consultant Staff
Infection Prevention and Control Team
Medical Microbiologists
Director of Nursing
Medical Director
Risk and Governance Department

9. Appendices/Attachments

APPENDIX 1 – RECOMMENDED PVC SELECTION SIZE[xviii]

PVC Size	
14G	Trauma patients Rapid, large-volume replacement
16G	Trauma patients Major surgery Intra-partum or post partum GIT Bleeding Multiple line access Multiple blood transfers High volume of fluids
18G	Blood products Delivery of irritant medications Multiple line access Large volume of fluids Major surgery Imaging requiring power injection of CT contrast Delivery of irritant medications
20G	General use IV maintenance IV antibiotics IV analgesia
22G	Small or Fragile veins Cytotoxic therapy
24G	Cancer services

APPENDIX 2 – ADULT PERIPHERAL CANNULATION POSTER

Southern Health and Social Care Trust

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ADULT PERIPHERAL CANNULATION

- **Peripheral cannulation is an invasive procedure**
- **Peripheral cannula infection (bacteraemia) can result in death**

- **Only insert peripheral cannulas if they are needed.**
- **Peripheral cannulas should be inserted using aseptic non-touch technique (ANTT).**
- **Peripheral cannulas placed in an emergency should be removed and replaced within 24 hours.**
- **Peripheral cannula site should be inspected at least twice daily for signs of infection.**
- **Peripheral cannula observation chart should be commenced on insertion. VIP score should be recorded at manipulation and following each observation, at a minimum twice daily.**
- **The continued need for peripheral cannula should be reviewed daily by both nursing and medical staff.**
- **IV sets should not be disconnected for routine care.**
- **Peripheral cannulas ideally should be replaced at 72 hours.**
- **If peripheral cannulas are to stay in longer this should be risk assessed and documented and VIP score recorded 4 hourly.**
- **Remove peripheral cannulas when they are no longer needed**
- **Observe the PVC site for 48 hours after removal**

[i] Health Protection Scotland – "Targeted literature review: What are the key infection prevention and control recommendations to inform a peripheral vascular catheter (PVC) maintenance care quality improvement tool?" – p4
[ii] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p2
[iii] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p3
[iv] Centers for Disease Control and Prevention - "Guidelines for the Prevention of Intravascular Catheter-Related Infections. 2011" – p5-6
[v] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p9-10
[vi] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p11
[vii] epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England (2014) – Journal of Hospital Infection 86S1 – S9
[viii] Peripheral Cannulation – www.antt.org
[ix] epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England (2014) – Journal of Hospital Infection 86S1 – S44
[x] Health Protection Scotland – "Targeted literature review: What are the key infection prevention and control recommendations to inform a peripheral vascular catheter (PVC) maintenance care quality improvement tool?" – p4
[xi] Health Protection Scotland – "Targeted literature review: What are the key infection prevention and control recommendations to inform a peripheral vascular catheter (PVC) maintenance care quality improvement tool?" – p7
[xii] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p13
[xiii] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p13
[xiv] Queensland Health Guideline Peripheral Intravenous Catheter Version 2, March 2013 – p7
[xv] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p14
[xvi] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p11
[xvii] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p15
[xviii] NSW Government, Ministry of Health – "Peripheral Intravenous Cannula (PIVC) Insertion and Post Insertion Care in Adult Patients" – p18