



PROCEDURE

Peripheral Intravenous Cannula (PIVC) Insertion, Assessment and Management (Adult)

Table of Contents

TARGET AUDIENCE and SETTING.....	2
PURPOSE	2
DEFINITIONS.....	2
PRECAUTIONS/CONTRAINDICATIONS	2
Relative contraindications	3
Timeframes for removal / replacement	3
STANDARD REQUIREMENTS.....	4
PROCEDURE – PIVC Insertion	4
Indications	4
Pre-insertion assessment.....	4
Maximising first attempt success	4
Choosing the right insertion site for PIVCs	4
Cannula selection	5
PIVC Insertion.....	5
Equipment	5
Procedure	6
Additional Securement	7
Failed PIVC Insertion	8
Addition of Difficult Peripheral Vascular Access Alert.....	8
Removal of Difficult Peripheral Vascular Access Alert.....	8
PROCEDURE – Cannula Assessment and Management	8
Cannula Assessment	9
Patient Education.....	9
PROCEDURE – Flushing.....	10
Patency Check - Flushing.....	10
Equipment	10
Procedure	10
PROCEDURE – Management of lines and connectors.....	11
Maintenance of a closed infusion system	11
Accessing the closed infusion system.....	11

Infusion lines and connections	11
PROCEDURE – Dressing changes	12
Indications	12
Equipment	12
Procedure	12
PROCEDURE – Removal of PIVC	13
Indications for Removal of PIVC	13
Timeframes for removal / replacement	13
Equipment	13
Procedure	13
Post-Procedure	14
Management of complications	15
RELATED DOCUMENTATION	17
EMR based clinical areas:	17
Paper based clinical areas.....	17
Related Procedures:	17
KEY STANDARDS, GUIDELINES OR LEGISLATION	17
REFERENCES	17
KEYWORDS	18

TARGET AUDIENCE and SETTING

Medical staff, Registered Nurses, Registered Midwives, Enrolled Nurses, and Radiographers within their scope of practice.

This procedure is applicable to all adult clinical areas of Monash Health.

PURPOSE

To describe the expected practice for the insertion, assessment, management, and removal of adult peripheral intravenous cannulas (PIVC).

DEFINITIONS

Emergency Cannula – An emergency cannula is a peripheral intravenous cannula inserted during an emergency situation where time to intravenous access is critical, and adherence to aseptic technique is uncertain or unknown

PRECAUTIONS/CONTRAINDICATIONS

- PIVC are used to administer intravenous (IV) medication, fluids, contrast, and blood products

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 2 of 18	Review By: 31/10/2029
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- PIVCs are commonly associated with local infections, premature failure as well as physical and sometimes psychological discomfort for patients. They cause almost a quarter of hospital acquired bloodstream infection and must only be inserted when absolutely necessary
- Prior to insertion of a PIVC, consideration must be given to whether appropriate therapy can be provided by a less invasive route. For example: oral, intramuscular, subcutaneous routes
- Unused PIVC or “Just in Case Cannula” harm our patients with no or little opportunity for benefit
- Consideration must be given to whether peripheral or central venous access is appropriate depending on the treatment required
- PIVCs must not be used to obtain blood cultures as this leads to an increased risk of contamination to the blood culture and PIVC. The ONLY exception is at the time of PIVC insertion where it is acceptable to take a blood sample

Relative contraindications

- Patient / family / carer refusal
- Where appropriate therapy can be provided by a less invasive route
- Collection of pathology samples
- Limbs with arteriovenous (AV) fistulas
- Limbs where axillary lymph node clearance has been performed
 - If lymph node clearance has been performed bilaterally, seek guidance from the treating medical team
- Resistive / agitated patient
- Active coagulopathy
- Where long term intravenous therapy is required, and central venous access is preferred

Timeframes for removal / replacement

- Replace all PIVCs inserted at Monash Health **within 72 hours of insertion**
- Remove all PIVCs inserted during medical emergencies and/or in the cubital fossa **within 24 hours** if clinically safe to do so (If indicated, insert a new PIVC)
- PIVCs inserted at an external hospital (eg: other Monash Health site, external hospital, Urgent Care Centre/GP) must be documented as ‘Present on Admission’ in Interactive View > Lines-Devices > Peripheral IV and removed within 24 hours if clinically safe to do so. The PIVC may be left in situ according to the Monash Health dwell times when the following circumstances are met:
 - The patient has documented evidence of PIVC insertion under aseptic, no-touch technique.
 - The PIVC insertion and time and date is known and is documented on admission in EMR Interactive View > Lines-Devices > Peripheral IV
 - Or if the patient has a history of difficult peripheral vascular access – and further access cannot be obtained

For Emergency Departments

- All Ambulance Victoria and pre-hospital PIVCs or “emergency” PIVCs inserted in resuscitation conditions where Monash Health policy may have been compromised must have an “Unknown / AV” orange sticker (see image 1) applied by either nursing or medical staff on patient arrival. Record the presence of the PIVC in the EMR

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 3 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

- PIVCs must be removed within 24 hours of arrival, and reviewed as part of the 'Time Out' process, and any unused/Ambulance Victoria/pre-hospital PIVCs must be removed prior to transfer from the ED

Image 1: Unknown/AV PIVC Sticker

UNKNOWN/AV PIVC
Remove within 24 hours

STANDARD REQUIREMENTS

When undertaking any clinical interaction with a patient, staff are expected to:

- Perform routine hand hygiene. Refer to the [Hand Hygiene Procedure](#).
- Introduce yourself to the Patient and Carer/ Family if in attendance.
- Explain what you do and what you are there for
- Check patient identification. Refer to the [Patient Identification Procedure](#).
- Obtain consent as per the [Consent to Medical Treatment Procedure](#).
- Keep the patient/carer informed and involve them in decision making.
- Document interaction in the Electronic Medical Record or health record using black pen; including date, time, signature and designation.

PROCEDURE – PIVC Insertion

Indications

- Medically unstable patients as defined by meeting Monash Health Medical Emergency Team (MET)/ Emergency Department (ED) MET criteria
- Medically stable patients who require at least one of the following:
 - IV medications including IV contrast
 - IV fluids
 - Blood products
- A precautionary PIVC may be considered for high-risk patients with cardiac chest pain, post seizure and / or is postictal

Pre-insertion assessment

Maximising first attempt success

If you are not confident the IV cannula can be inserted successfully on the first attempt, escalate to a more senior clinician.

If you are unsuccessful on your second attempt, refer to a senior clinician trained in the use of ultrasound. Refer to the Monash Health [Ultrasound Guided Peripheral Intravenous Cannulation \(PIVC\) Procedure](#).

Choosing the right insertion site for PIVCs

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 4 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

- Identify a suitable insertion site by considering the potential risk of infection and mechanical complications. The forearm veins are the recommended site for insertion. If possible, avoid veins located in areas of flexion and the cubital fossa veins, which would only be considered if clinically indicated (i.e. if required for critical care or IV contrast)
- Ask the patient if they have a preference for the location of the PIVC and consider their preference where possible. For example: using veins in the non-dominant arm
- When selecting an appropriate vein for cannulation - consider for each patient:
 - The condition of the patient's vein and skin at insertion site
 - Purpose of the infusion and estimated duration of infusion
 - If the selected insertion site may affect or restrict movement or be uncomfortable for the patient
- Select a site that will promote self-care, prevent accidental removal or blockage, and facilitate the safe administration of therapy
- Do not** use veins in the lower extremities unless this is necessary. Cannulation of the lower extremities may compromise circulation, and carries an increased risk of tissue damage, thrombophlebitis and embolism

Cannula selection

- Clinicians must use the smallest gauge and shortest length PIVC that will accommodate the prescribed therapy to reduce the risk of phlebitis
- For a general guide to cannula selection refer to table 1:

Table 1: Peripheral IV device selection guide – gauges, flow rates and clinical indications

Size	Colour	Flow rate mL / min	Clinical Indications
24 g	Yellow	24	Fragile veins, short term use
22 g	Blue	35-38	IV fluids, IV medications, smaller veins, elderly patients
20 g	Pink	62-63	Transfusion, radiology procedures, fluids
18 g	Green	104-110	High fluid volumes and viscosities
16 g	Grey	215-220	Emergencies, rapid infusions
14 g	Orange	330-350	Emergencies, rapid infusions, resuscitation, trauma, major blood loss

PIVC Insertion

Equipment

- Dressing trolley
- Monash Health IV starter kit containing:
 - 2% Chlorhexidine in 70% Isopropyl alcohol swabstick¹

- Sterile gauze (x 3 pieces)
 - Insertion site label
 - Medical record label
 - Sterile transparent semipermeable dressing
 - Sterile plastic field
 - IV extension set
 - Tourniquet
 - Peripheral IV safety cannula – appropriately sized
 - Sodium chloride 0.9% 10 mL ampoule
 - 10 mL syringe
 - Gloves – clinician sized
NB: sterile gloves must be used if any key part or site has the potential to be touched. Refer to: [Aseptic Technique Procedure](#)
 - Sharps container
 - **If required:** Electronic Medical Record (EMR) Specimen Collection printed labels
 - **If required:** Clippers to shave the patient
- ¹If a chlorhexidine allergy exists, **5% alcohol-based povidone-iodine** e.g. Betadine® may be used. A separate sterile dressing pack will also be required to decant the skin cleansing solution.

Procedure

1. Perform hand hygiene
2. Clean the dressing trolley as per the [Clinical Equipment Cleaning Procedure](#)
3. Collect equipment
4. Perform hand hygiene
5. Remove the 2% chlorhexidine in 70% alcohol swab stick from the outer component of the IV starter kit and place it to one side. **Swab sticks are not sterile. DO NOT place on the aseptic field**
6. Prepare the aseptic field and prime the extension set with Sodium Chloride 0.9%
7. Perform hand hygiene
8. Apply the tourniquet 8-10cm above the intended insertion site for no longer than 1 minute and assess the veins in the selected area. **Ensure that a pulse is palpable with the tourniquet on the chosen limb**
9. Decide if success is likely in a distal vein in the first instance. If success is not anticipated, escalate accordingly. Refer to [choosing the right insertion site for PIVCs Procedure](#)
10. Release the tourniquet, leaving it in place
11. Apply the 2% chlorhexidine in 70% isopropyl alcohol swab stick in a circular motion starting at the intended insertion site, moving outwards to the diameter of the transparent dressing and **allow to air dry completely**
12. Re-apply the tourniquet (do not leave in situ longer than 2 minutes)

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 6 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

13. Perform hand hygiene and apply gloves
14. Stabilise the skin *below* the intended insertion site whilst ensuring key parts and sites are protected
15. Enter the vein with the safety cannula at a 15-30° angle
16. After “needle flash” is observed, lower the cannula angle, and insert a further 2-3mm and then advance the cannula off the stylet and observe for “catheter flash” to confirm placement within the vein. Continue to advance the cannula hub until it sits flush with the skin. Leave the stylet in cannula hub to prevent blood flow
17. Apply gentle pressure above the vein 2-5cm above the cannula insertion site and release the tourniquet, ensuring that aseptic technique is maintained
18. Gently withdraw the stylet and discard immediately into the sharps container
 - a. **If a blood specimen is required:** attach an appropriately sized syringe / vacutainer and withdraw blood (Refer to: [Blood Collection Order of the Draw for Tubes and Bottles Implementation Tool](#))
19. Attach primed IV extension set
20. Flush with sodium chloride 0.9% using a positive pressure, pulsatile technique
21. Apply the dressing ensuring that the transparent dressing covers the insertion site and the connection between the cannula hub and the IV extension set
22. Affix the completed IV site label on the side of the transparent dressing
23. Dispose of waste in the appropriate clinical waste receptacle
24. Remove gloves and perform hand hygiene
25. Clean the dressing trolley
26. Document the PIVC insertion in the patient’s medical record. **The clinician who inserts the PIVC is responsible for creating a dynamic group in the EMR for documentation of insertion** and to facilitate the documentation of ongoing assessments.
 - b. **EMR based clinical areas**
Document the interaction in Interactive View > Lines-Devices > Peripheral IV
 - c. **Paper based clinical areas**
Document the interaction in the patient’s progress notes

Additional Securement

- If clinically indicated, in order to maintain aseptic technique and/or secure the cannula, an additional dressing may be required, for example:
 - Patients who are confused and/or delirious
 - Patients actively seizing or likely to experience a seizure
 - Patients with a tremor/uncontrolled limb movements
- Apply a second transparent sterile dressing as required, ensuring the insertion site and the connection between the cannula hub and the IV extension set is covered by at least one of

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 7 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

the dressings

Failed PIVC Insertion

- Each attempt at PIVC insertion must be treated as an individual procedure i.e. collect new equipment, use a new IV starter kit and start at the beginning of the procedure
- Each clinician can only have **two attempts** at cannulation before escalating to a more senior clinician
- For any failed attempt at PIVC insertion, document each attempt and the reason it was not successful within the patient's medical record

Addition of Difficult Peripheral Vascular Access Alert

The addition of a *Difficult Peripheral Vascular Access* clinical alert is indicated in the following circumstance:

- The patient has less than two suitable peripheral cannulation sites
- No veins are visible or palpable
- Multiple failed access attempts on current or previous admissions
- Patient reports the use of ultrasound guidance required to gain access on previous admissions
- Patient reports that Anaesthetics or Radiology assistance required to gain access on previous admissions and no veins are visible or palpable

Note: If the above criteria are fulfilled, escalate to Anaesthetics or Radiology for the consideration of ultrasound guided peripheral intravenous cannula insertion (refer to [Ultrasound Guided Peripheral Intravenous Cannulation \(PIVC\)](#)) or the insertion of a Central Venous Access Device (CVAD) (refer to [Central Venous Access Device \(Adult\) Insertion and Management Procedure](#))

Removal of Difficult Peripheral Vascular Access Alert

- The Difficult Peripheral Vascular Access alert can be removed from the clinical record if on assessment the patient no longer satisfies the above criteria
- Removing the alert must also be considered if the patient reports that the alert is not required

PROCEDURE – Cannula Assessment and Management

PIVC assessment involves [assessment of the cannula site](#), [patient education](#) and [patency checks \(flushing\)](#). PIVC assessment **must** be performed:

- At least once per shift (or eight hourly) / Hospital in the Home (HITH) assessment is performed daily
- If the patient expresses any concerns about the cannula
- Each time the device is accessed

Document each PIVC assessment:

a. EMR based clinical areas

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 8 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

- i. Document the interaction in Interactive View > Lines-Devices > Peripheral IV under the relevant dynamic group
- b. **Paper based clinical areas**
 - i. Document the interaction in the patient's progress notes

If any abnormalities are observed, these must be escalated to the treating medical team immediately.

Cannula Assessment

1. Determine if the PIVC is still required. If not, remove the cannula. Refer to: [Removal of PIVC](#)
2. Ask the patient if they have any concerns about the PIVC. If they have any concerns associated with the use of their PIVC they must be documented and managed accordingly
3. Observe for signs of infection / phlebitis (Redness, pain, swelling, discharge, warmth and / or tenderness). If any signs of phlebitis are present, escalation to medical team **must occur** as soon as possible regarding the need to remove /replace the cannula
4. Gently palpate the vein above the insertion site to determine if they have become hardened or thrombosed
5. Compare the area around cannula site to the same area on the other arm for swelling or oedema, tightness or coolness which may indicate infiltration of fluid
6. Observe that the PIVC remains appropriately dressed and secured
NB: All dressings must be replaced as soon as practicable if the dressing becomes damp, loosened, is no longer occlusive or adherent, soiled, or there is an excessive accumulation of fluid under the dressing. Refer to: [dressing changes](#)
7. Check for patency of the cannula by performing a flush. Refer to: [Flushing Procedure](#)

Patient Education

1. Ask the patient:
 - a. If they are tolerating their PIVC
 - b. Whether they understand why it is needed and the treatment they are having
 - c. If they have any concerns associated with the use of their PIVC and deal with these concerns
2. Check that the patient knows what signs and symptoms to report, including local site complications such as pain, redness, swelling, skin irritation or fever
3. Advise the patient about the importance of telling their clinician if they think complications are developing so that they can be addressed immediately
4. Document the interaction in the patient's medical record
 - a. **EMR based clinical areas**

Document the interaction in Interactive View > Adult Education

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 9 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

d. **Paper based clinical areas**

Document the interaction in the patient's progress notes

PROCEDURE – Flushing**Patency Check - Flushing**

A patency check **must** be performed:

- Inpatients - Every 8 hours when no infusion is connected
- Hospital in the Home (HITH) – Daily

In addition to the above, flushing must occur:

- **Prior** to medication administration to assess cannula patency
- **Post** medication administration to ensure the line is clear of residual medication and to reduce the risk of fluid / medication incompatibility complications
- **Between** medication administrations if more than one medication is to be administered concurrently

Equipment

- Kidney dish / tray
- Chlorhexidine 2% in alcohol 70% swab
- 10 mL Luer lock syringe
- 10 mL sodium chloride 0.9% for injection

Procedure

1. Collect equipment
2. Perform hand hygiene
3. Prepare equipment
4. Perform hand hygiene
5. Vigorously scrub the needleless connector with the chlorhexidine 2% in alcohol 70% swab for 15 seconds and allow to dry
6. Attach the 10 mL Luer lock syringe primed with sodium chloride 0.9% to the needleless connector
7. Slowly aspirate from the PIVC and check for blood return
8. Flush the PIVC with 5 mL sodium chloride 0.9% using a positive pressure, pulsatile technique
 - If an extension set is attached: Clamp the extension set as the last 1 mL of sodium chloride 0.9% is injected, ensuring the syringe does not 'bottom out'
 - If resistance is met or you are unable to flush the PIVC, escalate to the treating medical team

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 10 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

9. Disconnect the syringe and dispose of equipment in the appropriate clinical waste receptacle
10. Perform hand hygiene
11. Document the interaction and fluid volume in the patient's medical record
 - e. **EMR based clinical areas**
Document the interaction in Interactive View > Lines-Devices > Peripheral IV under the relevant dynamic group
 - f. **Paper based clinical areas**
Document the interaction in the patient's progress notes

PROCEDURE – Management of lines and connectors

When caring for a patient with PIVC, the following elements are to be incorporated into the plan of care:

Maintenance of a closed infusion system

- Intravenous administration lines **must not** be disconnected for routine hygiene, activities of daily living or for tests performed in other departments
- If an infusion line has been disconnected from the cannula it **must not** be reconnected. A new line and infusion bag **must be** commenced

Accessing the closed infusion system

- Prior to accessing the infusion system, the access port must be cleaned with 2% chlorhexidine in 70% alcohol solution using a vigorous rub and allowed to air dry completely
- All infusion sets or syringes used in PIVC management must be of Luer-lock design to ensure a secure junction is maintained

Infusion lines and connections

- All peripheral IV infusion sets, connectors, extension tubing, and fluid flasks are to be changed simultaneously when:
 - A new cannula is inserted
 - Following any infusion line disconnection from the intravascular device
- IV lines used for the administration of blood or blood products must be changed on completion of the transfusion episode, or at least every 8 hours. Each IV line can be used to transfuse up to 4 units of blood (more in an emergency)
- All infusions and administration lines must be labelled as per the [Labelling of Medicines, Fluids and Lines Procedure](#)

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 11 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

PROCEDURE – Dressing changes

Dressings to PIVC sites are the first line of defence against infection and dislodgement. The dressing must be kept secure, clean, dry, and intact.

Indications

The indications for dressing changes are when the dressing becomes damp, loosened, is no longer occlusive or adherent, soiled, or there is an excessive accumulation of blood or fluid underneath the dressing.

Prior to replacing the dressing on a current peripheral cannula consider:

- Is the cannula still required?
- When is the next scheduled re-site due?
- Would re-cannulation be preferable to redressing?
- Can the dressing be removed safely without dislodging the cannula or contaminating the insertion site?

Equipment

- Dressing trolley
- Dressing pack
- 2% chlorhexidine gluconate in 70% isopropyl alcohol solution¹
- Transparent semi-permeable sterile dressing E.g. Tegaderm™
- Tape to secure extension set / IV line
- Non-sterile gloves

Procedure

1. Perform hand hygiene
2. Clean the dressing trolley as per clinical equipment cleaning procedure
3. Collect equipment
4. Perform hand hygiene
5. Prepare the aseptic field
6. Perform hand hygiene and apply non-sterile gloves
7. Remove the dressing, ensuring key parts and key sites are not touched and that the cannula is not inadvertently dislodged or displaced
8. Remove gloves and perform hand hygiene
9. Using an aseptic technique clean the cannula insertion site with 2% chlorhexidine gluconate in 70% isopropyl alcohol solution and allow solution to air dry completely
10. Apply the dressing, ensuring the insertion site is covered completely and that the cannula insertion site is clearly visible
11. Secure the extension set / bung to prevent traction on the cannula ensuring the insertion site remains visible

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 12 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

12. Perform hand hygiene
13. Complete the date and time sticker with the **cannula insertion details** (not the date of re-dressing) and attach to the edge of the transparent film
14. Dispose of waste in appropriate bin(s)
15. Document the dressing change in the medical record
 - a. **EMR based clinical areas**
Document the interaction in Interactive View > Lines-Devices > Peripheral IV under the relevant dynamic group
 - b. **Paper based clinical areas**
Document the interaction in the patient's progress notes

PROCEDURE – Removal of PIVC

Indications for Removal of PIVC

PIVC's must be removed:

- As soon as they are no longer clinically indicated
- If there are any signs of infection and / or phlebitis (redness, swelling, tenderness, discharge) if safe to do so
- If there are any signs of complications including infiltration, extravasation, or occlusion

If there is any delay to removal, this must be escalated to the treating medical team with clinical justification documented in the patient's medical record

Post removal, replace with a new PIVC if ongoing vascular access is required. If extended IV therapy is anticipated, consider an alternative device, such as a peripherally inserted central catheter (PICC) or central line (CVAD).

Timeframes for removal / replacement

- Replace all PIVCs inserted at Monash Health **within 72 hours of insertion**
- Remove all PIVCs inserted during medical emergencies and/or in the cubital fossa **within 24 hours** if clinically safe to do so (If indicated, insert a new PIVC)

Equipment

- kidney dish / tray
- Non-sterile gloves
- Sterile gauze square
- Dressing e.g. hemostatic adhesive pad (pressure dot), or gauze and tape

Procedure

1. Identify any potential concerns for post-cannula removal bleeding / bruising e.g. anticoagulant therapy, thrombocytopenia, fragile veins

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 13 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

2. Provide explanation of procedure and gain verbal consent from the patient
3. Perform hand hygiene
4. Collect the required equipment
5. Perform hand hygiene
6. Prepare your equipment
7. Perform hand hygiene and apply non-sterile gloves
8. Gently remove the transparent dressing, hold the cannula in place whilst removing the dressing
9. Hold a piece of sterile gauze over the exit site but do not apply pressure
10. Slowly withdraw the cannula and immediately apply firm digital pressure with the gauze over the insertion point until haemostasis has been achieved
11. Check bleeding has ceased
12. Apply a dressing to the puncture site
13. Advise the patient that the dressing must stay in place for up to 24 hours
14. Dispose of waste in appropriate clinical waste receptacle
15. Remove gloves and perform hand hygiene

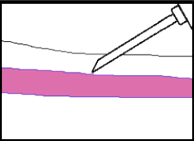
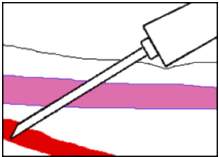
Post-Procedure

- Document removal in the patient's medical record
 - a. **EMR based clinical areas**
Document the interaction in Interactive View > Lines-Devices > Peripheral IV under the relevant dynamic group AND **inactivate** the dynamic group
 - b. **Paper based clinical areas**
Document the following in the patient's progress notes:
 - Date and time of removal
 - The reason for removal
 - The condition of the site, including any signs of phlebitis
 - Any unexpected events
- The insertion site must be observed for 48 hours after the PIVC is removed for signs of post-infusion pain and signs of infection
 - a. NB: Reactivation of the dynamic group can occur to document against the insertion site if required
- If the patient is to be discharged from hospital, explain what signs they must look out for after the PIVC is removed and who they must contact if signs of infection develop

PROMPT Doc No: SNH0178389 v4.0		
Date loaded on PROMPT: 01/10/2021	Page 14 of 18	Review By: 31/10/2029
Version Changed: 27/10/2025	Document uncontrolled when downloaded.	Last Reviewed Date: 27/10/2025

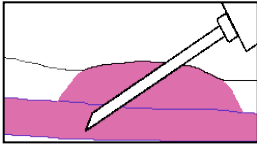
Management of complications

Clinical Complications *During* the Cannulation Procedure

Complication	Definition	Possible Cause	Preventative Measure
Missed vein	 Failed attempt to puncture the selected vein, resulting in no flashback being visible	• Cannula was not inserted on top of the vein • Incorrect body alignment with the vein caused visual distortion • Vein moved due to inadequate anchoring • Too much traction on the vein causing it to flatten	• Insert the cannula directly on top of the vein • Reposition to ensure accurate visualisation of the vein • Re-anchor the vein and maintain traction until the cannula has punctured the vessel • Avoid overly firm vein anchoring
Cannot advance cannula	Failed attempt to thread the cannula along the selected vein tract	• Cannula too large for the selected vein • Vein sclerosed • Cannula sitting outside the vein • Cannula inserted at a vein bifurcation or in close proximity to a valve • Releasing skin traction before threading the cannula	• Select a smaller cannula, appropriate for the lumen of the vein • Thorough assessment of the vein path and position of valves prior to attempting cannulation • Adequate limb inspection to identify veins that are hard on palpation, and may be sclerosed • Discuss past medication profiles with the patient, to identify a history of venous irritants, such as corticosteroids
Arterial cannulation	 Inadvertent arterial puncture	• Selection of basilic vein, where artery is in close proximity • Inadequate site inspection and vein palpation • Hypotension reducing peripheral arterial flow	• Avoid locations where veins and arteries are in a close anatomical position • Re-palpate and assess vein sites thoroughly

PROCEDURE

Peripheral Intravenous Cannula (PIVC) Insertion, Assessment and Management (Adult)

Nerve injury	 Inadvertent nerve puncture	• Inadequate site inspection and vein palpation • Excessive cannula movement once inside the limb • Entering the vein through the side of the vessel	• Insert the cannula directly over the vein. • Retract the skin to adequately stabilise the vein prior to skin puncture
Haematoma with puncture	 Localised collection of blood in the subcutaneous tissues	• Cannula angle too steep • Excessive force when puncturing the vein • Failure to lower the cannula angle before advancing into the vein • Fragile veins: age, medical condition, steroid use • Cannula too large for the selected vein	• Decrease the cannula angle on insertion • Decrease the level of insertion pressure to reduce the risk of posterior vein wall puncture • Select a smaller cannula, appropriate for the lumen of the vein
Allergy / anaphylaxis	Response to interaction with a substance to which the person is hypersensitive	• Contact with cannulation equipment – e.g. skin antisepsis or puncture site dressing • Failure to adequately assess known allergies prior to cannulation • Allergy unknown / unreported by the patient	• Adequate assessment of past medical history or known allergies, prior to commencing the procedure • Familiarity with treatment interventions and emergency management strategies if required
Fainting / syncope	Brief loss of consciousness, often caused by a sudden drop in blood pressure	• Needle phobia • Vaso-vagal response • Warm environment • Hypotension	• Adequate assessment of past medical history or known experiences of fainting, prior to commencing the procedure • Ensure recumbent position for the procedure to prevent harm from falling if fainting does occur • Maintain appropriate environmental conditions to prevent patient over-heating

RELATED DOCUMENTATION

EMR based clinical areas:

Document all interactions and ongoing management within Interactive View > Lines-Devices under the relevant dynamic group.

NB: Orders for PIVC care can be placed to remind employees when dressing and line changes are due.

Paper based clinical areas:

- Document the peripheral intravenous cannula insertion in the paper record by affixing the blue cannulation label to the progress notes
- Document all interactions within the Peripheral Vascular Access Chart (MRK68) and patient progress notes as relevant

Related Procedures:

[Ultrasound Guided Peripheral Intravenous Cannulation \(PIVC\) Procedure](#)

[Aseptic Technique Procedure](#)

[Blood Collection Order of the Draw for Tubes and Bottles Implementation Tool](#)

[Central Venous Access Device \(Adult\) Insertion and Management Procedure](#)

[Labelling of Medicines, Fluids and Lines Procedure](#)

KEY STANDARDS, GUIDELINES OR LEGISLATION

Australian Commission on Safety and Quality in Health Care (2nd Edition) (2017). *National Standard 3: Preventing and Controlling Healthcare-Associated Infection Standard*

Australian Commission on Safety and Quality in Health Care (2021). *Management of Peripheral Intravenous Cannulas Clinical Care Standard*

REFERENCES

Australian Commission on Safety and Quality in Health Care (2019). *Australian Infection Prevention and Control Guidelines*

Infusion Nurses Society. Infusion therapy standards of practice. J Infus Nurs 2016;39(1S):S1–S159.16. Loveday HP, Wilson JA,

Limm EI, Fang X, Dendle C, Stuart RL, Egerton Warburton D. Half of all peripheral intravenous lines in an Australian tertiary emergency department are unused: pain with no gain? Ann Emerg Med 2013 Nov;62(5):521–5.7.

Ray-Barruel, G., & Alexander, M. (2023). CE: Evidence-based practice for peripheral intravenous catheter management. AJN, American Journal of Nursing, 123(1), 32-37.

Zingg W, Barton A, Bitmead J, Eggimann P, Pujol M, Simon A, Tatzel J. (2023). Best practice in the use of peripheral venous catheters: A scoping review and expert consensus. Infect Prev Pract. 2023 Feb 3;5(2):100271. doi: 10.1016/j.infpip.2023.100271. PMID: 36910422; PMCID: PMC9995289.

KEYWORDS

PIVC, drip, bung, IVB, IVC

Document governance	
Policy or Framework supported by this	High Quality Care (Policy)
Executive Sponsor	Divisional Director of Medicine, Aged Community and Mental Health
Responsible Committee	Standard 3 Preventing and Controlling Infections Committee
Primary Contact	Director of Infection Prevention & Epidemiology