

Management of Peripheral Intravenous Catheters

Clinical Care Standard

The *Management of Peripheral Intravenous Catheters* clinical care standard is relevant in all healthcare settings where PIVCs may be inserted or managed

1 Assess intravenous access needs

A patient requiring medicines or fluids is assessed to identify the most appropriate route of administration for their clinical needs.

Ensure that organisational policies and processes support the consideration of all routes of administration of medications and fluids before therapy is started, and that the IV route is only used if other routes are not suitable.

2 Inform and partner with patients

A patient requiring intravenous access receives information and education about their need for the device and the procedure. Their consent is obtained and they are advised on their role in reducing the risk of device-related complications.

Ensure that systems are in place for clinicians to provide information and education to patients about their PIVC, to support shared decision making. Also ensure that patients have access to ongoing advice when needed. When consent is being obtained, ensure that policies enable patients to receive enough information to inform their decision about having a PIVC inserted, and support patients to ask questions before the device is inserted and while it is in place. This will help the patient to be engaged in their care and to participate more effectively in decision-making about their treatment. This is consistent with the Partnering with Consumers Standard in the NSQHS Standards (second edition).

3 Ensure competency

A patient's PIVC is inserted and maintained by clinicians who are trained and assessed as competent in current evidence-based practices for vessel health preservation and preventing device-related complications, relevant to their scope of practice. Insertion by a clinician working towards achieving competency is supervised by a clinician who is trained and assessed as competent.

Use evidence-based guidelines to identify the practical skills and knowledge required to successfully insert and manage PIVCs. Based on these guidelines, develop policies outlining the competency and assessment required for clinicians, relevant to their scope of practice, and how competency will be monitored.

Validate competency using systems such as checklists or forms that focus on measurable assessment of performance, and use a standardised approach to assess competency so that infusion therapy practices are consistent across the organisation. Have a system for assessing competency of clinicians who have come from other facilities.

Ensure that competency is documented according to local policy. Monitor and review competency for feedback to clinicians and ongoing quality improvement.

Develop workforce competency as appropriate to the size of the organisation, as well as the availability of a competent work force after hours. Options include subspecialty or vascular access champions for greater first-time insertion success.

4 Choose the right insertion site and PIVC

A patient requiring a PIVC is assessed to identify the most suitable insertion site and PIVC (length and gauge) to meet their clinical needs and preferences for its location.

Ensure that policies describe the criteria for selection of PIVC insertion sites and types of devices.

Ensure that clinicians involved in choosing insertion sites are adequately trained, and know how to select the most appropriate PIVC and insertion site for the patient's intended therapy. This includes knowing the:

- Patient's clinical condition
- Insertion technique for the specific device
- Potential for complications
- Appropriateness of the device for the prescribed therapy.

Ensure devices with safety-engineered protective features are available at the point of care to reduce the risk of injury involving a sharp. Examples include devices such as needles with guards, sliding sheaths, shields, blunted tips or retracting needles, blunt suture needles, and surgical blades with protective covers.

5 Maximise first insertion success

The likelihood of inserting a PIVC successfully on the first attempt is maximised for each patient, according to a health service organisation's process for maximising first-time insertion success.

Support clinicians and promote a culture of maximising first-time insertion success by having policies describing how to achieve this goal. Policies and processes should include:

- What to do if insertion is likely to be difficult
- Recommendations to escalate before any attempt to insert a PIVC if the complexity of the insertion is outside the clinician's expertise
- Specified conditions under which more than one attempt may be appropriate (such as lack of more experienced staff in the after-hours setting).

Strategies to support first-time insertion success may involve referring to a more experienced clinician to ensure that the expertise to insert the PIVC matches the complexity of the patient's clinical presentation, or use of technology-assisted devices such as ultrasound, especially after hours when staffing may be limited. Adequate staff training in the use of technology assisted devices is required to ensure that they maximise first-time insertion success.

6 Insert and secure

A clinician inserting a patient's PIVC uses standard precautions, including aseptic technique. The device is secured and a sterile, transparent, semi-permeable dressing is applied unless contraindicated.

Ensure that policies and procedures are in place that describe the requirements for the safe insertion and securement of PIVCs. Ensure that policies and procedures outline:

- Who can insert a PIVC
- What is needed to insert and secure a PIVC, including skin preparation, equipment and dressings
- What infection control measures to use
- How to dispose of the equipment used to insert and secure the PIVC.

Ensure that systems are in place to enable clinicians to complete training in standard precautions, including the '5 Moments for Hand Hygiene' and aseptic technique. Ensure compliance with the Labelling Standard.

7 Document decisions and care

A patient with a PIVC will have documentation of its insertion, maintenance and removal, and regular review of the insertion site.

Support clinicians to maintain accurate and complete healthcare records about a patient's infusion therapy by ensuring that organisational policies and procedures describe the complete requirements for documentation, where to document and how often documentation should occur.

At a minimum, documentation should include information about inserting, maintaining and removing PIVCs, and reviewing the insertion site.

If an electronic system is used for records, ensure that it captures the date and time of insertion, and confirms that the PIVC has been removed before the patient is discharged from hospital. Details about any adverse events such as infection, infiltration or extravasation, and the actions taken to deal with them, should also be documented.

Ensure that complete and accurate healthcare records are available at the point of care so that all clinicians involved in the patient's care are aware of the plan for the patient's infusion therapy. Monitor documentation procedures to ensure that they adhere to the organisational process, and provide feedback to clinicians as part of ongoing quality improvement.

8 Routine use: inspect, access and flush

A patient's PIVC and insertion site is inspected by a clinician for signs of complications at least once per shift or every eight hours, when accessing the device, and if the patient raises concerns. Standard precautions including aseptic technique are used when performing site care and accessing the PIVC. Patency is checked and flushing is performed at intervals according to local policy to assess device function and minimise risk of device failure.

Ensure that evidence-based policies and procedures are in place outlining what is needed to access, maintain and flush a PIVC. Ensure that equipment is available at the point of care to ensure that hand hygiene and aseptic technique are maintained every time the PIVC is reviewed, accessed or flushed.

9 Review ongoing need

The ongoing need for a patient's PIVC is reviewed and documented at least daily, or more often if clinically indicated.

Ensure that policies are in place which describe the need for at least daily review of ongoing need for IV access, and for immediate removal of PIVCs when they are no longer needed.

10 Remove safely and replace if needed

A patient with a PIVC will have it removed when it is no longer needed or at the first sign of malfunction or local site complications. A new PIVC will be inserted only if ongoing peripheral vascular access is necessary, consistent with the replacement recommendations in the current version of the Australian Guidelines for the Prevention and Control of Infection in Healthcare.

Ensure that systems are in place that state the considerations for when a PIVC should be removed and replaced, and monitor adherence to guideline recommendations for ongoing quality improvement. These systems should be based on a formal risk assessment that takes into account:

- The availability of staff appropriately trained in the insertion, monitoring, assessment and maintenance of PIVCs on each shift
- The quality of PIVC surveillance in the healthcare facility, including surveillance of regular inspection of the site and device, and of PIVC related *Staphylococcus aureus* bacteraemia (SAB).

The need for robust documentation and reporting processes on device insertion, maintenance and removal that is supported by the results of audits.

Indicators for local monitoring

The following indicators will support health service organisations to monitor how well they are implementing the care recommended in this clinical care standard and are intended to support local quality improvement activities.

1 Assess intravenous access needs

Indicator 1: Proportion of patients with a PIVC in situ that has not been used for a therapeutic purpose since it was inserted.

2 Inform and partner with patients

Indicator 2: Proportion of patients with a PIVC in situ that can identify the reason for the device.

3 Ensure competency

Indicator 3: Evidence of a locally approved policy that defines:

- The competency a clinician must demonstrate to insert a PIVC, including for more complex and technology-assisted insertions
- The competency a clinician must demonstrate to monitor and remove PIVCs
- The organisation's process to assess and monitor the ongoing competency of clinicians, including for more complex insertions
- The organisation's process to assess adherence to the policy.

4 Choose the right insertion site and PIVC

Indicator 4a: Evidence of local arrangements that provide systematic support for decisions related to the selection of an appropriate PIVC device.

Indicator 4b: Proportion of patients with a PIVC in situ over an area of flexion.

5 Maximise first insertion success

Indicator 5a: Evidence of a locally approved policy that defines the local protocol to support PIVC insertion on first attempt. The protocol should specify:

- The risk assessment process that should be used to identify patients where insertion of a PIVC may be more complex
- The situations (scenarios) when staff should escalate PIVC insertion to more experienced staff and the process to follow
- The clinical situations when more than one attempt is appropriate
- The organisation's process to assess adherence and outcomes of the policy.

Indicator 5b: Proportion of patients who report their PIVC was inserted on the first attempt.

7 Document decisions and care

Indicator 7a: Evidence of a locally approved policy that defines:

- The information that must be documented in the medical record for every PIVC inserted, including, indication for insertion, maintenance and removal
- How often documentation should occur
- The organisation's process to assess adherence to the policy.

Indicator 7b: Proportion of patients with a PIVC in situ with the indication for insertion documented in their medical record.

8 Routine use: inspect, access and flush

Indicator 8a: Proportion of patients with a PIVC in situ who have their PIVC insertion site inspected for complications at least every 8 hours.

Indicator 8b: Proportion of patients with a PIVC in situ with a clean, dry and secure PIVC dressing.

9 Review ongoing need

Indicator 9: Proportion of patients with a PIVC in situ who have been assessed in the last 24 hours to determine the ongoing need for their PIVC.

10 Remove safely and replace if needed

Indicator 10: Proportion of patients with a PIVC in situ that has not been used for a therapeutic purpose in 24 hours.

The definitions required to collect and calculate indicator data are specified online: meteor.aihw.gov.au/content/index.phtml/itemId/732513.

Questions?

For more information about the clinical care standard, please visit: safetyandquality.gov.au/ccs.

You can also contact the Clinical Care Standards project team at: ccs@safetyandquality.gov.au.

