

## Peripheral Intravenous Cannulation (PIVC)

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### Purpose

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To provide guidance to staff on appropriate site selection, safe insertion, management and care of PIVC.

### Scope

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The peripheral IV cannulation course is open to all Registered Medical Practitioners, Trainee Interns, Registered Nurse /Enrolled Nurse, Midwives, Anaesthetic Technicians, MRI & MRTs, IV Technicians.

### Certification Requirements for RN, EN, RM, IV and Anaesthetic Technicians

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- All Registered Nurses, Enrolled Nurses, Midwives, IV and Anaesthetic Technicians, MRIs and MRTs must be recommended by their CNM/Manager to become certified in peripheral cannulation.
- Nurses/Midwives/ENs, Anaesthetic technicians, IV technicians\* must successfully complete the requirement for the following courses:
  - Venepuncture Certification prior to requesting endorsement in Cannulation\*. (Note: MRIs and MRTs are exempt from this)
  - Extravasation of non-cytotoxic HealthLearn course **RGMS012** (this course does not apply to IV technician) <https://www.healthlearn.ac.nz/course/view.php?id=1085>
- Endorsement for a first time cannulator requires successful completion of the HealthLearn course **CAMS002**. <https://www.healthlearn.ac.nz/course/view.php?id=301>
- Pre-course activities involve SLP, theory test, attendance at an IV Cannulation workshop and practical cannulation skills assessment within their clinical area. This must be completed within 2 months from attending the workshop.
- **NOTE:** On application, PIVC high user areas may provide in-house training for their staff and must comply with the policy and protocol for insertion and management. This includes completing the CAMS002 HealthLearn course and **RGMS012**
- Peripheral IV cannulation is a permanent endorsement. It is the individual's responsibility to maintain their cannulation clinical practice skills.
- Practical skills assessment will be measured by regular audits.
- **NOTE:** Staff who have previous cannulation experience from another healthcare facility may qualify for the recognition of prior (RPL) learning pathway on supplying confirmation of evidence from their previous employer. This is in HealthLearn under **cannulation CAMS002**.

### Patient Engagement:

All healthcare professionals who insert PIVC are responsible for providing patient education on their PIVC. PIVC Patient Information leaflets are available in [English](#) and [Te Reo](#) for this purpose. Patient engagement leads to improved outcomes for PIVC.

**Peripheral IV Cannulation Requirements**

**Vein Assessment:**

Table 1. Peripheral vein assessment tool.

Grade	Vein quality	Definition of vein quality	Insertion management*
1	Excellent	4-5 palpable/visible veins suitable to cannulate	Cannula may be inserted by trained/ authorised healthcare practitioner
2	Good	2-3 palpable/visible veins suitable to cannulate	Cannula may be inserted by trained/ authorised healthcare practitioner
3	Fair	1-2 palpable/visible veins suitable to cannulate (veins may be small, scarred or difficult to find and require heat packs to aid vasodilation)	Cannula may be inserted by trained/ authorised healthcare practitioner but may require Infrared Viewer or ultrasound
4	Poor	Veins not palpated/visible (requires ultrasound assistance or Infrared Viewer)	Cannula may be inserted by an experienced practitioner <sup>†</sup> in cannulation. Use Infrared Viewer, ultrasound, transillumination or other aids
5	None identifiable	No visible (naked eye or aids) or palpable veins	Peripheral cannulation should not be performed

- Select an appropriate vein in the ‘Green Zone’ avoiding points of flexion to minimise complications and maximise dwell time
- Select a smaller (22g or 20g) peripheral IV cannula where possible to avoid vein trauma (excluding emergencies)
- To maintain asepsis during insertion, use the approved 3M cannulation insertion kit
- Aseptic non-touch technique must be used during skin preparation, insertion of the peripheral IV cannula and application of the dressing.
- The selected insertion site must be thoroughly cleaned using 2% chlorhexidine & 70% alcohol
- An approved peripheral IV cannula dressing must be used to dress and secure a cannula (appropriate equipment is included in the 3M cannulation kit).
- Cover the site with an appropriately sized Tubifast (tubular bandage) for additional security and protection. **Do not use Tubigrip or tight bandages** that can restrict blood flow
- All peripheral IV cannula must have an extension set attached at insertion to maximise IV cannula dwell time and reduce vein trauma due to movement when accessing it.
  - Extension set Exceptions: Due to length of stay - Day Wards, Outpatient Departments, Birthing Suite, ED (use as clinically indicated)
- Peripheral IV cannula will be replaced as clinically indicated using the VIP score and site assessment
- Record insertion, management and removal in CORTEX (or Patientrack or other approved organisational documentation methods) **NB: green ID label not required**

**Insertion and Management Bundles:**

*Ensure these essential elements are completed during PIVC INSERTION*

<b>HAND HYGIENE</b>	<b>PERSONAL PROTECTION</b>	<b>ANTT</b>
<ul style="list-style-type: none"> <li>Do not touch cannula or equipment unless you are compliant with hand hygiene</li> </ul>	<ul style="list-style-type: none"> <li>Gloves are required when performing procedure</li> <li>The choice of sterile or non-sterile glove depends on level of expertise</li> </ul>	<ul style="list-style-type: none"> <li>During insertion ensure key parts of equipment are protected for touch contamination</li> </ul>
<b>PROCEDURE</b>	<b>SKIN PREPARATION</b>	<b>DRESSING INTACT</b>
<ul style="list-style-type: none"> <li>Protect key parts from touch contamination</li> </ul>	<ul style="list-style-type: none"> <li>Clean skin with chlorhexidine 2% &amp; Alcohol 70% for 30 second and allow to air dry</li> </ul>	<ul style="list-style-type: none"> <li>Ensure dressing is applied correctly and cannula is stable. Write date on additional dressing strip and place along the side of dressing</li> </ul>
<b>FLUSHING</b>	<b>SHARPS SAFETY</b>	<b>DOCUMENTATION /CARE PLAN</b>
<ul style="list-style-type: none"> <li>Flush cannula with 0.9% sodium chloride. Use a short extension set with needless device to prevent premature cannula failure</li> </ul>	<ul style="list-style-type: none"> <li>On removal of the stylet dispose into a sharps container.</li> <li>Do not use needles to access a needless connector</li> </ul>	<ul style="list-style-type: none"> <li>Document procedure on Patient Track or if not available in clinical notes.</li> </ul>

*Ensure these essential elements are completed during ONGOING PIVC MANAGEMENT*

<b>HAND HYGIENE</b>	<b>ANTT</b>	<b>DRESSING INTACT</b>
<ul style="list-style-type: none"> <li>Do not touch cannula or equipment unless you are compliant with hand hygiene</li> </ul>	<ul style="list-style-type: none"> <li>During any subsequent interaction with cannula</li> <li>Protect key parts</li> </ul>	<ul style="list-style-type: none"> <li>Ensure the dressing is intact at all times.</li> <li>Replace at 5-7 days if VIP score 0.</li> <li>Clean site, apply new dressing, and consider use of Cavilon skin protectant to assist with dressing adhesion.</li> </ul>
<b>VIP SCORE</b>	<b>CANNULA REQUIRED</b>	<b>ACCESSING CANNULA</b>
<ul style="list-style-type: none"> <li>Visually check the condition of the cannula site using the VIP score as a measure and document results every shift</li> </ul>	<ul style="list-style-type: none"> <li>Remove cannula when no longer required or when clinically indicated (following assessment using VIP score)</li> <li>Replace cannula if VIP score indicates and only if ongoing therapy is require</li> </ul>	<ul style="list-style-type: none"> <li>Use gloves</li> <li>Clean access device vigorously chlorhexidine 2% &amp; Alcohol 70% wipe, allow to dry before attaching syringes or IV tubing.</li> </ul>

**CHECKLIST SUMMARY**

<b>IN USE</b>	<b>DRESSING</b>	<b>VIP Score</b>
<ul style="list-style-type: none"> <li>Check if in use each shift</li> <li>Remove when no longer required</li> </ul>	<ul style="list-style-type: none"> <li>Check intact</li> <li>Change every 5-7 days</li> </ul>	<ul style="list-style-type: none"> <li>Check every shift</li> <li>Replace at VIP score 2</li> <li>If VIP score 5- complete safety 1<sup>st</sup></li> </ul>

**PIVC Assessment**

- PIVC status must be checked at handover by the nurse handing over and the nurse taking on accountability for care.
- The nurse leading the shift uses CORTEX or other available resources to monitor PIVC care by staff on duty:
  - VIP score and site assessment** must be carried out four- eight 8 hourly where continuous IV infusions are administered
  - For **irritant IV infusion** or when **known vesicant medications** are infused **hourly assessments** must be performed
  - Initiate appropriate response when the VIP score is 2 supporting immediate removal and /or replacement if clinically indicated.

## Taking blood samples from PIVC

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- It is not recommended to use PIVC for blood sampling. If indicated blood sample/s may only be taken at time of PIVC insertion.
- A syringe must never be connected directly to the IV cannula hub to take blood samples. This increases the potential for infection.
- Use a closed system by connecting an access device or extension set to the PIVC hub.
- A blue tip vacutainer device is used for this purpose. This is connected to the access device and the blood tube/s inserted in correct order of draw.
- If blood flow is slow or aspiration is resistant, use the 5mL syringe method. Smaller syringes have less negative pressure on withdrawal. The syringe is then attached to the pink tip transfer device to prevent a needle stick injury occurring during transfer from syringe to blood tube.

## Measurement or evaluation

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- Regular Point Prevalence audits
- Waitaha Canterbury and Te Tai o Poutini West Coast IV Clinical Practice Observations audits.
- Documentation audits of CORTEX and Patienttrack or clinical records

## Supporting material

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### Controlled Documents

- PIVC Patient Information Leaflet - English - Ref 2409712
- PIVC Patient Information Leaflet - Te Reo Māori - Ref 2410032

### Supporting Material

- [Waitaha Canterbury Fluid and Medication Management](#)
- [Peripheral IV Cannula Resource Book](#)

## References

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