

## Queensland Paediatric Emergency Care

## Skill Sheets

# Peripheral Intravenous Cannula (PIVC) Taping

Insertion of a PIVC is a common procedure in the Emergency Department to obtain diagnostic blood samples and commence treatment. The correct taping of a PIVC is an important skill, to ensure adequate securement and reduce PIVC related complications including pressure injuries. Taping technique may vary from site to site. The preferred site for PIVC insertion is the forearm, away from a joint, as this reduces movement of the PIVC and does not require a splint. If urgent vascular access is required, other temporary, less ideal sites are acceptable. This skill sheet will describe taping for multiple anatomical sites for PIVCs.

## Tips

- Have all staff and equipment ready prior to procedure to ensure a seamless process.
- Aim to improve patient experience with use of CALM principles, playful distraction techniques e.g. bubbles, photos or music from a caregiver's phone.
- Minimise procedural discomfort by applying topical anaesthetic, the use of sucrose in infants and consideration of procedural sedation if clinically indicated. A medical order and parental consent is required prior to use.
- Where a forearm PIVC is not able to be inserted, ensure that a backboard is used to reduce movement and prevent occlusion.
- Follow manufacturer instructions when using product specific to your health service.
- Follow local policies relating to PIVC dressing and securement to complement this skill sheet.

## 1 GATHER EQUIPMENT

Gather equipment for PIVC insertion and open onto an aseptic surface. Specific brands will vary depending on health services. The following are examples for use:



Antiseptic skin prep wipe



Standard cannula



Integrated cannula



PIVC dressing



Tissue adhesive



Clean closed-cell foam tape



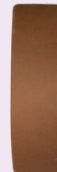
Skin prep/barrier film wipe



Backboard (if required)



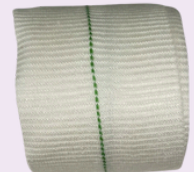
Stretchy brown tape



Rigid brown tape



Elastic adhesive bandage



Tubifast (appropriately sized)

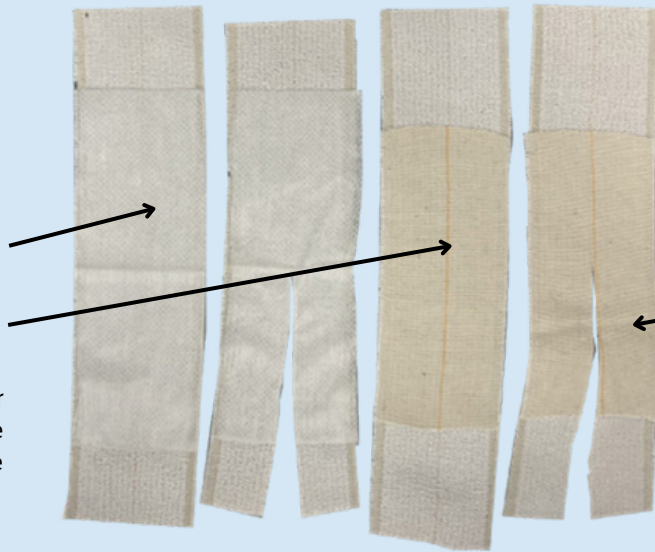


## 2

## PREPARE

After completing hand hygiene, cut tapes to reflect the size of the child to ensure firm and secure taping. Below are some examples of how tapes may be prepared.

It is important that the sticky side of the elastic adhesive bandage that will come into contact with the child's skin is covered. This is to prevent skin irritation and PIVC dressing compromise. Options for this include gauze or the non-adhesive side of the elastic adhesive itself.



Cutting "trouser legs" into the tapes can be helpful to create easy access for hourly PIVC site inspections.



## ALERT

Ensure taping does not compromise circulation to limbs. PIVC securement and taping can cause pressure areas and care should be taken to prevent this.

### Tape Selection Rationale

<b>Closed cell foam tape</b> (eg. Hubguard™, Microfoam™)	Provides cushioning between the hard plastic of the device and the patient's skin. Sterile foam is preferred where available.
<b>Elastic adhesive bandage</b> (eg. Tensoplast™)	Enables firm securement with some stretch to assist in preventing pressure areas and compromise to circulation. This is not required if the PIVC is inserted in an area of no flexion such the forearm.
<b>Thin rigid brown tape</b>	Provides firm securement for 3-way tap with extension and, reducing movement of the PIVC.
<b>Stretchy brown tape</b> (eg. Leukoplast® Elastic)	If a backboard is required to immobilise a joint, this can assist securing fingers and toes, further reducing movement.

### Tissue Adhesive Usage

Tissue adhesive has been shown to potentially enhance securement, and may reduce risk of PIVC failure. It could be considered in children with Difficult Intravenous Access (DIVA) or when the PIVC dwell time is expected to exceed 48 hours. Availability of tissue adhesive varies across institutions, please follow your local policies regarding Tissue Adhesive.



3

Ensure equipment in step 1 is ready to use. Only cut enough tapes for the current procedure. Additional tapes left hanging create the perfect environment for micro-organisms.



4

Perform hand hygiene and don personal protective equipment appropriate to procedure (e.g. sterile/non-sterile gloves, apron, goggles etc).



5

Once the PIVC is insitu, use gauze squares to ensure skin surrounding cannula is clean and dry. Skin prep wipes can also be utilised.



6

Select the PIVC dressing used in your clinical area. Your clinical area may use a different PIVC dressing brand. This skill sheet will demonstrate Tegaderm and SorbaView application.



7

Place a strip of tape across PIVC hub +/- a drop of tissue adhesive if this is used in your area. Pinch the tape around the cannula hub to ensure it is firmly secured.



8

This is not essential, but you may want to secure the PIVC with a second strip of tape.



9

Place closed-cell foam tape (sterile is preferred) under the hub, to prevent pressure injury.



10

Apply the dressing to incorporate the connection as well as PIVC hub, taking care to ensure the insertion site remains visible.



7

Place closed-cell foam tape under the PIVC hub. Add a drop of tissue adhesive at the PIVC hub if used in your area.



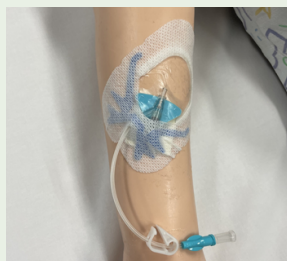
8a

If using a standard PIVC, apply the dressing directly, ensuring insertion site remains visible. The PIVC hub and connection point should be seen above the blue line.



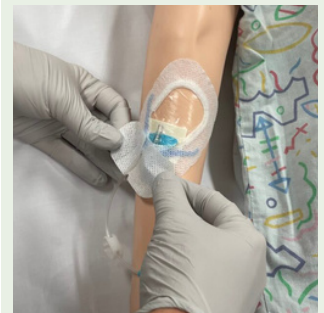
8b

If using an integrated PIVC, apply the dressing over the blue triangle, ensuring insertion site remains visible. PIVC tubing exits from under the blue line.



9

Apply the closure piece at the base of the dressing underneath the extension tubing.



Tegaderm

OR

SorbaView





## Securing a PIVC in the hand

In addition to the above dressing and securement principles add a splint with foam facing the skin under the hand and wrist. Use pre-prepared splinting board tapes to attach the splinting. Keep the thumb free for patient to use. Ensure that fingers are firmly secured, but not so tight as to cause pressure areas or compromised circulation. Ensure that the PIVC site can be easily accessed for regular assessment. Anchor 3-way tap and extension with brown tape to reduce drag. Be aware of potential pressure areas when adding the backboard and tapes.

### Neonate and infant:



### Child:



## Securing a PIVC in the foot

Prepare the splint prior to PIVC insertion by moulding it to fit the foot and heel as seen in the picture below. Use adhesive tape to secure toes, and 3-way tap to prevent movement and drag. Be mindful not to create pressure areas with taping.



## For further information:

[Procedure: Peripheral Intravenous Cannula \(PIVC\) Insertion](#)

[Guideline: Venous Access Device \(VAD\) - Insertion and Management of Peripheral and Central Venous Access Devices](#)

[Resource: CALM Care](#)

[Resource: Streamlined Paediatric Cannulation in Emergency Shadow board](#)

## References:

Australian Commission on Safety and Quality in Health Care. (2021). Management of Peripheral Intravenous Catheters Clinical Care Standard. Retrieved 14 January 2025 from <https://www.safetyandquality.gov.au/publications-and-resources/resource-library/management-peripheral-intravenous-catheters-clinical-care-standard-2021>

Charters, B., Foster, K., Lawton, B., Lee, L., Byrnes, J., Mihala, G., Cassidy, C., Schults, J., Kleidon, T., McCaffery, R., Van, K., Funk, V., & Ullman, A. (2024). Novel Peripheral Intravenous Catheter Securement for Children and Catheter Failure Reduction: A Randomized Clinical Trial. JAMA Pediatrics, 178 (5). Doi: [10.1001/jamapediatrics.2024.0167](https://doi.org/10.1001/jamapediatrics.2024.0167)

Children's Health Queensland. (2024). Procedure: Peripheral Intravenous Cannula (PIVC) Insertion. Retrieved 5 December 2024 from [https://qheps.health.qld.gov.au/\\_data/assets/pdf\\_file/0030/2552691/Proc-80003.pdf/\\_nocache](https://qheps.health.qld.gov.au/_data/assets/pdf_file/0030/2552691/Proc-80003.pdf/_nocache)

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- Supporting consumer rights and informed decision making in partnership with healthcare practitioners including the right to decline intervention or ongoing management.

- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary.
- Ensuring informed consent is obtained prior to delivering care.
- Meeting all legislative requirements and professional standards.
- Applying standard precautions, and additional precautions as necessary, when delivering care.
- Documenting all care in accordance with mandatory and local requirements.

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