

Percutaneous central venous catheter: maintenance

Point of care tool

The procedures described in this fact sheet are only to be performed by competent personnel and trainees supervised by competent personnel, and in conjunction with local procedures.

Dressing

Dressing specification options

Dressing type	Replacement interval
Transparent, semi-permeable, self-adhesive polyurethane	Weekly*
Gauze	Second daily*
Chlorhexidine-impregnated	Weekly*

*All dressings should be replaced routinely as well as when the dressing becomes damp, loosened, no longer occlusive or adherent, soiled, if there is evidence of inflammation, or excessive accumulation of fluid. Manufacturer's recommendations should be followed.

Aseptic technique

- Hand hygiene
- Sterile dressing pack
- Sterile drape
- Sterile gloves
- Environmental control (pull curtains).

Catheter fixation

- Suture at the hub and three-way bifurcation anchor point, or
- Sutureless securement device.
- A catheter that has migrated externally should not be readvanced.

Skin prep for dressing

- 2% alcoholic chlorhexidine, or povidone iodine with 70% alcohol.
- Cleanse the area (the size of the final dressing) around the catheter including under the hub.
- Cleanse vigorously for at least 30 seconds moving in concentric circles from the site outward. Repeat this step a total of three times using a new swab for each application. Allow to air dry.

Submersion

- The dressing (including polyurethane types) should not be immersed or submerged in water:
 - Showering is preferable to bathing, and swimming or spa bathing should be avoided.

Accessing the catheter

Personal protective equipment (PPE)

- Non-sterile gloves
- Protective eyewear as required
- Apron as required

Aseptic technique

- Hand hygiene
- Environmental control (pull curtains)

Antiseptic

- 70% isopropyl alcohol swab or alcoholic chlorhexidine.

Accessing the catheter

- All intravenous access ports should be meticulously cleaned with a single-use 70% alcohol-impregnated swab or alcoholic chlorhexidine and allowed to air dry prior to accessing the system.
- The catheter should be accessed with a sterile single-use device.

Needleless access ports

- Needleless access ports eliminate opening the catheter hub. Use aseptic technique.
- Anytime a needleless access port or cap is removed from a catheter, it should be discarded and a new sterile cap should be attached.
- Needleless access ports should be changed:
 - at the frequency recommended by the manufacturer, and:
 - if the integrity of the access port is compromised, or
 - if residual blood remains within the access port.

CVC review

- CVCs should be reviewed each shift and those that are no longer needed should be promptly removed.

Assess each shift for:

<ul style="list-style-type: none">• Insertion site:<ul style="list-style-type: none">○ Erythema○ Tenderness○ Swelling○ Pain○ Palpable venous cord○ Purulent discharge.	<ul style="list-style-type: none">• Signs of systemic infection:<ul style="list-style-type: none">○ Rigor○ Fever○ Tachycardia○ Hypotension○ Malaise○ Nausea/vomiting.	<ul style="list-style-type: none">• Catheter position• Occlusion/patency:<ul style="list-style-type: none">○ Flush regularly.
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For more information and references refer to the full I-Care Percutaneous central venous catheters guideline available from: <https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/diseases-infection/infection-prevention/intravascular-device-management/default.asp>