

Protocol for central line insertion

• Bundle for prevention of CLABSI

- In neonates, catheter insertion site is suggested as follows – Left UL > Right UL > Left LL > Right LL
- Use a midline catheter or peripherally inserted central catheter (PICC), instead of a short peripheral catheter, when the duration of IV therapy will likely exceed ten days
- Promptly remove any intravascular catheter that is no longer essential
- When adherence to aseptic technique cannot be ensured (i.e catheters inserted during a medical emergency), replace the catheter as soon as possible, i.e, within 24 hours
- Replace administration sets at 72-hour intervals unless catheter-related infection is suspected.
- Replace tubing used to administer blood products or lipid emulsions within 24 hours of initiating the infusion.
- Do not routinely replace CVCs, PICCs, hemodialysis catheters, or pulmonary artery catheters to prevent catheter-related infections
- Do not use topical antibiotic ointment or creams prior to catheter insertion sites because of the potential to promote fungal infections and antimicrobial resistance

• Specific Guidelines for vascular care

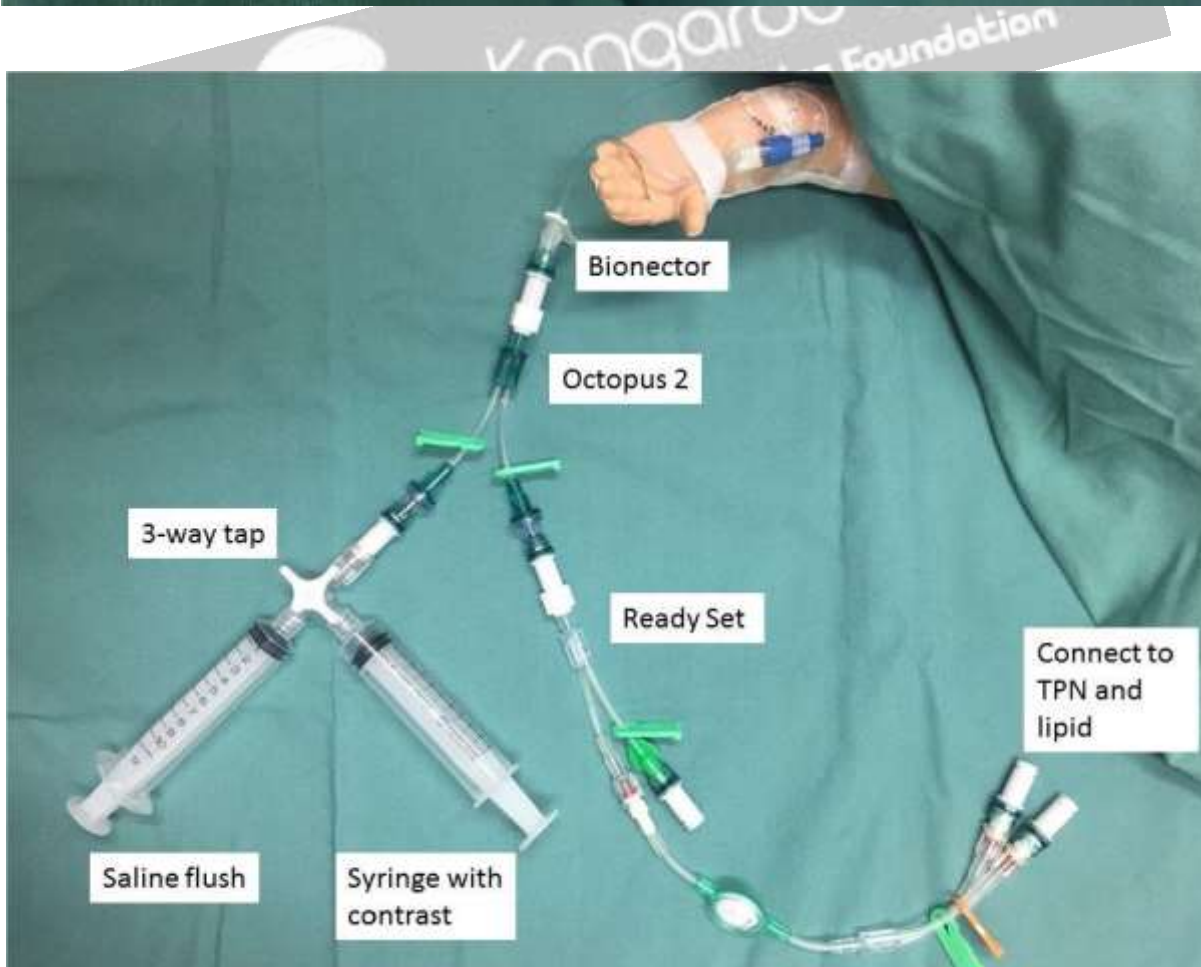
○ Hand washing

Wash hands before every attempted intravascular catheter insertion. Antimicrobial hand washing soaps are desirable, and are preferred before attempted insertions of central intravenous catheters, catheters requiring cutdowns, and arterial catheters. ○ Preparation of skin

0.04% Chlorhexidine may be used for cleaning the skin. Insertion sites should be scrubbed with a generous amount of antiseptic. Beginning at the center of the insertion site, use a circular motion and move outward. Antiseptics should have a contact time of at least 30 seconds prior to catheter insertion. Antiseptics should not be wiped off with alcohol prior to catheter insertion.

○ Applying dressings

Sterile dressings should be applied to cover catheter insertion sites. Unsterile adhesive tape should not be placed in direct contact with the catheter-skin interface.



○ Inspecting catheter insertion sites

Intravascular catheters should be inspected daily and whenever patients have unexplained fever or complaints of pain, tenderness, or drainage at the site for evidence of catheter related complications. Inspect for signs of infection (redness, swelling, drainage, tenderness) or phlebitis and also palpate gently through intact dressings.

○ Manipulation of intravascular catheter systems

- Strict aseptic technique should be maintained when manipulating intravascular catheter systems.

Examples of such manipulations include the following:

- Placing a heparin lock
- Starting and stopping an infusion
- Changing an intravascular catheter site dressing
- Changing an intravascular administration set

○ Flushing IV lines

Solutions used for flushing IV lines should not contain glucose which can support the growth of microorganisms. Do not reuse syringes used for flushing. Follow single use of injection devices

○ Peripheral IV sites (short term catheters)

Peripheral IV catheters should be rotated every 48 to 72 hours.

○ Central intravascular catheters (long term catheters)

- Use maximal sterile barrier precautions, including the use of a cap, mask, sterile gown, sterile gloves, and a sterile full body drape, for the insertion of CVCs, PICCs, UVC and UACs
- Prepare clean skin with a 0.04% chlorhexidine preparation with alcohol before central venous /arterial catheter and peripheral arterial catheter insertion and during dressing changes.
- Type of PICC lines: we suggest using Vygon premicath catheter for babies less than 1.5kg and BARD catheters for babies more than 1.5 kg



○ **Dressing changes**

No change of dressing is recommended in neonates

○ **Replacement of central IV catheters**

Central IV catheters do not require routine removal and reinsertion, provided there is no sign of catheter related infection or other complications.

○ **Systemic Antibiotic Prophylaxis**

Do not administer systemic antimicrobial prophylaxis routinely before insertion or during use of an intravascular catheter to prevent catheter colonization or CRBSI

Summary of processes for insertion, maintenance and replacement of intravascular access devices

Site preparation	<p>In selecting the best insertion site, consider patient-specific factors and the relative risk of mechanical complications</p> <p>Allow sufficient contact time for site preparation—clean a site large enough for insertion before applying antiseptics and allow to dry completely</p> <p>Before device insertion, decontaminate the site using a single-use application of alcohol-based chlorhexidine gluconate solution for central lines and povidone</p>
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	<p>iodine or alcohol for IV lines</p> <p>Do not use tincture iodine in neonates</p>
Insertion	<p>Use maximum barrier precautions for insertion of all central catheters, including PICC lines</p> <p>Use aseptic non-touch technique for insertion of peripheral venous, arterial or subcutaneous devices</p> <p>If an intravascular device is inserted in an emergency, remove within 24 hours and insert a new device under appropriate conditions</p>
Maintenance	<p>Use hand antisepsis and aseptic non-touch technique for catheter site care and for accessing the system</p> <p>Dressings</p> <p>Use sterile gauze or sterile, transparent, semi-permeable dressings to cover the catheter site</p> <p>Changing dressings</p> <p>Examine short-term vascular catheter dressings daily and change if soiled or loosened</p> <p>Examine dressings for short-term central venous and peripheral arterial devices daily and replace: when soiled or loose; if the patient's clinical presentation indicates a BSI</p>
Device replacement	<p>Assess all devices daily and remove if no longer needed or if complications occur</p> <p>replace all catheters once IV therapy is complete unless there are indications of a BSI</p>
Replacement of administration sets	<p>Leave administration sets that do not contain lipids, blood or blood products in place for intervals of up to 3 days</p> <p>Change administration sets used for intermittent infusion of blood, blood products or lipid emulsions when the infusion is complete or at least every 24 hours</p>

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