LOCAL OPERATING PROCEDURE

CLINICAL POLICIES, PROCEDURES & GUIDELINES

Approved by Quality & Patient Safety Committee
16/7/15

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

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CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

Introduction
Central Venous Access Devices (CVAD's) include any catheter that is placed so that the distal tip sits in a major or central vein. This is usually the Superior Vena Cava (SVC) although the Inferior Vena Cava may also be used, as is the case for femoral catheters. Catheter types vary according to patient needs, treatment types and duration; however management and potential complications vary little. Catheters referred to in this document include short term central venous catheters (CVC) and peripherally inserted central catheters (PICC) as well as longer term tunnelled catheters (e.g. Hickman Catheter), and (implanted) venous access ports (e.g. Port-a-Cath®, PAS-Port®). Central venous catheters are generally sutured or require an anchoring device to maintain placement. Longer term tunnelled catheters contain a Dacron® cuff that acts as an anchor for the catheter as well as a barrier against micro-organisms to migrate from the skin surface into the blood stream.
Management of these devices is designed to reduce catheter-related morbidity by preventing complications the most common of which include catheter occlusion, infection or embolism.

Competence
To obtain competence Registered Nurses and Registered Midwives must have completed;
- The RHW IV Medication Assessment
- watched the Aseptic non touch technique (ANTT) videos
- received education during orientation on the care and maintenance of CVADs.
- completed the CVC worksheet, CVC removal competency before caring for a patient with a CVAD.
-Registered Nurses and Midwives accessing and deaccessing must have completed the Portacath assessments.

Educational notes:

- Hand hygiene is required prior to touching any part of a CVAD or dressing.
- CVAD dressing changes are routinely attended every 7 days or when clinically indicated (when wet or soiled) whilst maintaining asepsis to assist in the prevention of catheter-related infection.
- Standard (Universal) precautions will be adhered to at all times.
- Clean all bungs for 30 seconds with 70%alcoholic 2%chlorhexidine swabs and let dry before accessing.
- During insertion strict asepsis in maintained and a CVC insertion form is completed and filed in the patient's notes.
- CVC placement should be confirmed prior to use and any unused lumens heplocked at this time to maintain patency.
- The practice of changing administration lines and tubing that are connected to a CVAD are performed using ANTT to minimize the risk of infection.
- All spare lumens of the CVAD will be hep locked to maintain patency of the lumen. This prescription is documented onto the PRN section of the medication chart at time of insertion.
- A blue tray is used to maintain ANNT with administration of medications.
- CVAD's that have been hep locked should have the heparinised saline removed before flushing.
- CVAD patency is maintained by avoidance of retrograde displacement of blood into the distal segment of the catheter or formation of drug precipitate, therefore should be flushed with saline prior to and post medication administration.
- Potential air embolism or catheter-related sepsis is avoided by maintaining luer-locked lines and following the correct procedure during insertion or removal of a CVAD.

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

- All CVADs will be secured with a securement to prevent dislodgement.
- Competence is required before attending the removal of a CVAD.
- Catheter embolism is prevented by avoiding the use of sharp blades, ensuring all connections are secure, with CVAD care and maintenance, using pumps when administering all IV fluids and careful checking of lines to ensure there is no air in line prior to administration.
- When a CVC is removed, the patient will lie supine for one hour, the entry wound is sealed with an air occlusive dressing for 24 hours to prevent an air embolism.
- CVP can be a useful monitoring tool, when used in combination with other elements of physical assessment, not as a one off value.

Definitions:

Open and Closed Systems
Catheter related sepsis frequently occurs through contamination and colonisation of the catheter hub. A **closed** system refers to a catheter that has an add-on device connected. The add-on device can be a cap, needless injection port or an IV line. This means that the hub is protected from the environment. An **open** system refers to a catheter hub exposed to the environment. This occurs during cap or needless injection port changes, or IV line changes when there is not a needless injection port in place. To reduce catheter-related infection, maintenance and care with an open system should be performed using an aseptic technique that includes the use of sterile gloves. During a closed system, maintenance and care can be carried out using hand hygiene and an aseptic non touch technique.

Hand Hygiene
Routine
- Performed prior to opening and preparing equipment for all procedures relating to CVAD care.
- 60 seconds using an antiseptic liquid soap and water.

Antiseptic Skin Solutions
- The preferred antiseptic solution is 2% Chlorhexidine and 70% alcohol. Cleansing solution is available in 25ml bottles, swab sticks and swabs.
- 2% Chlorhexidine solution (alcohol free) in swab stick is also available for patients with alcohol sensitivity.
- 10% Providine Iodine solution is suitable for patients with Chlorhexidine sensitivity.

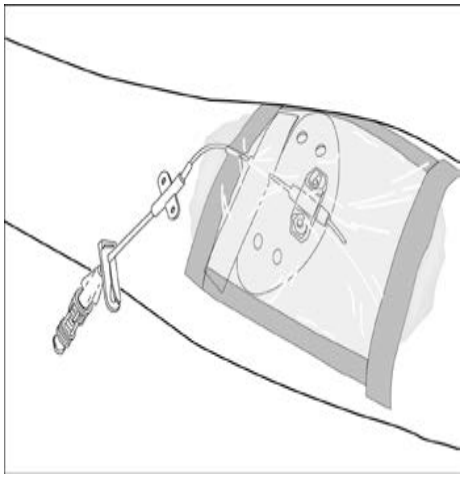
Dressing a Central Venous Catheter
Documentation of CVAD care must occur on the CVAD Observation Form S0148
Inpatient CVAD insertion sites must be examined daily for:
- Erythema
- Drainage
- Tenderness
- Pain
- Redness
- Swelling
- Integrity of suture or securement device.
- Dressing integrity
- Catheter position
- Ongoing need for the line
- Transparent Semi-permeable membrane (TSM) dressings e.g. OpSite IV 3000, is the standard material used to dress CVAD insertion sites
- Cotton dressings i.e. gauze, are the alternative material for use if the adhesive of the polyurethane film is contraindicated. Cotton dressings are contraindicated when there is an increased risk of contamination from secretions or external moisture.

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

Equipment

- Clean work area e.g. trolley with waste disposal bag.
- Protective mask and glasses or visor if risk of splashing exists.
- Protective sheeting.
- Dressing pack.
- Appropriate antiseptic skin solution
- Sterile 0.9% saline if dried blood or exudate present.
- Sterile gloves.
- Appropriate dressing e.g. IV3000 or Tegaderm®.
- Sterile securing device e.g. StatLock, for unsutured PICC **(StatLocks must be changed with dressing changes).**
- Sterile swab stick.

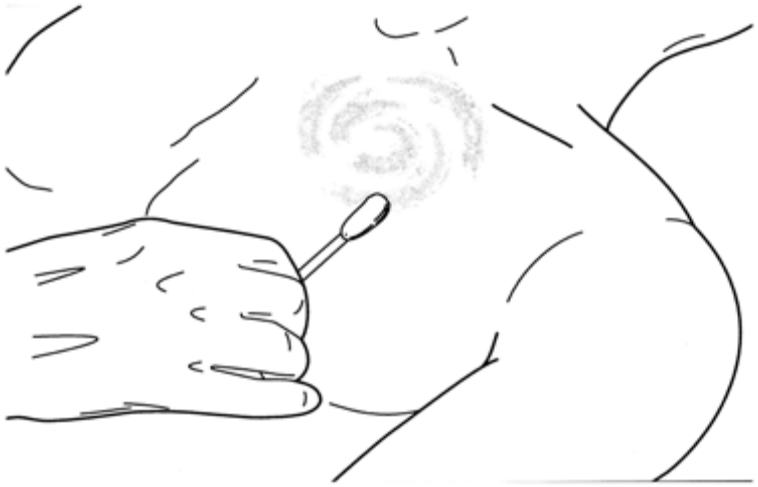
Method – Conventional Flat Dressing



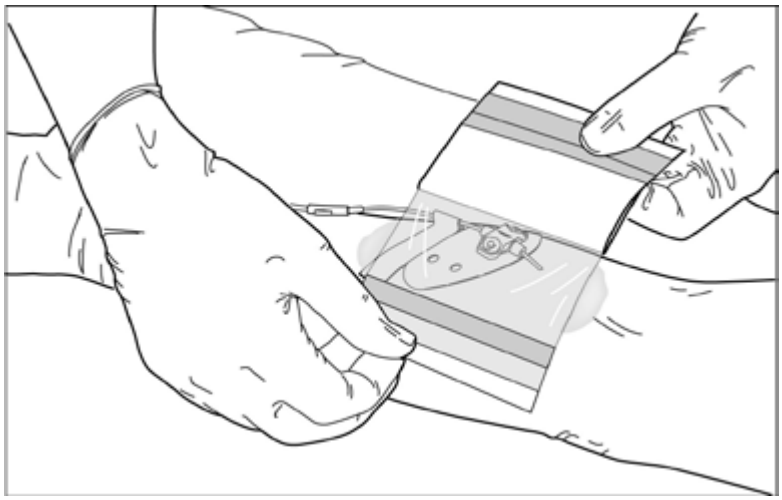
Use on PICC, Hickman catheters and other non-sutured CVC

1. Clean trolley with neutral wipes, collect equipment and place on bottom shelf, attach waste bag to side of trolley.
2. Perform basic hand hygiene and don non-sterile gloves
3. Remove existing dressing by stretching plastic adhesive. Removing StatLock.
4. Perform Procedural / Aseptic hand hygiene and don sterile gloves
5. Clean any dried blood or exudate from around insertion site with sterile 0.9% Saline. Clean catheter exit site with 2% Chlorhexidine and 70% at least 3 times with alcohol antiseptic skin solution commencing at the exit site, using a circular motion ensuring that the area cleaned is larger than the dressing to be applied.

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd



6. Apply Stat Lock if required. If you require help your assistant must hold the catheter in place with sterile gloves whilst the stat lock is applied. See below for application technique.
7. holding one end of the dressing peel away the film half way.
8. Centralise the catheter exit site and apply the dressing loosely over the catheter.
9. Peel away the backing on the remaining half and mould dressing around catheter to minimise bubbling.
10. Tear the plastic strips with paper tabs off the side of the dressing and place around non-reinforced edges of the dressing perimeter
11. Secure the catheter and intravenous administration set if attached to the patient in a manner that will prevent accidental dislodgment or kinking of the catheter.
12. Place a date onto the IV 3000 and complete the documentation on the CVAD observation form.



CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

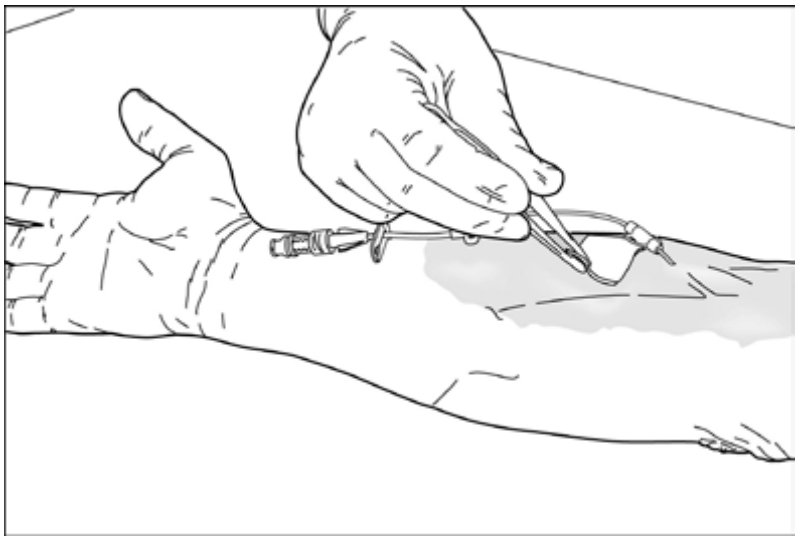
Removing and Replacing StatLock

Note: *If the StatLock is underneath the dressing aseptic technique should be used during application. This should be performed as part of the dressing change procedure. In some instances the StatLock may be applied further from the catheter exit site, in which case it may sit outside the dressing. In this situation aseptic technique is not required.*

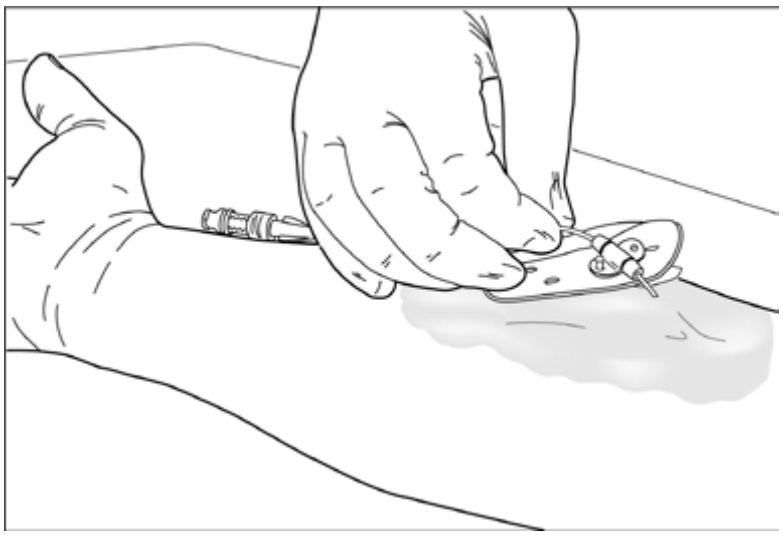
Statlock Plus uses a swinging gate that may be opened and closed to secure the catheter.

Applying StatLock

1. Using forceps apply the skin prep to the area of skin where the StatLock is to be applied and allow to dry.

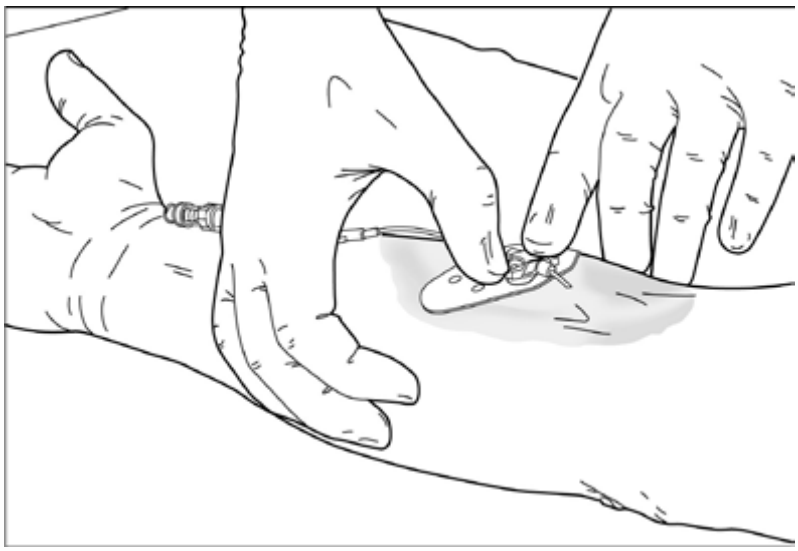
1. 

2. Place the StatLock over the prepared skin, remove the first side of the paper backing and place the catheter flange onto the eyelets. Ensure the catheter does not move or migrate out whilst attending.
3. Remove second side of backing to secure StatLock in place.



CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

4. Close gates on Statlock to secure into position.
5. Apply dressing as above.



Guidelines for Specific Needs

- Non-sutured or tunnelled catheters must have a conventional (Flat dressing).
- If the site is red, inflamed or has discharge present, a swab for microculture and sensitivity should be taken prior to renewing the dressing, and a review by a medical officer obtained.
- Biopatch® may be considered for use on patients with a high risk of developing a catheter-related sepsis. To use Biopatch® apply around catheter at exit site after cleaning. Apply with plastic film side up (Not onto the skin) and continue following the steps below to apply the dressing. Biopatch® comes in 3 sizes. Ensure that the appropriate size is used. The patch should fit snuggly around the catheter (See pictures below).

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

Procedure Changing Administration Sets
Catheter manipulations should be limited, ideally no more than once per day to reduce introduction of organisms and catheter related sepsis. All procedures should be coordinated to minimise the number of manipulations.
Administration sets (IV lines) and other attachments, e.g. 3-way taps, extension tubing are removed or changed every 72 hours from the day of insertion of the catheter, upon suspected contamination, or when the integrity of the product or system has been compromised (lines disconnected and left hanging, no label on line.)
IV lines infusing blood and blood components or lipids are changed on completion of the transfusion or within 8 hours (24 hours for lipids), whichever comes first.
Prescribed intravenous fluid containers / flasks are changed with administration sets. Intravenous solution or fluid is changed at least every 24 hours
Caps or needless injection ports are changed weekly in conjunction with administration set changes, or upon suspected contamination, or when the integrity of the product or system has been compromised.
Needleless Luer-lock connections are used at all connection points throughout administration sets. These connections are changed weekly.
If an administration set is disconnected, a new set must be used.

Line Change (Closed system)
Clean work area e.g. trolley with waste disposal bag and sharps container.
Appropriate new administration set/s and attachments.
Appropriate intravenous solution as ordered by Medical Officer.
Non-sterile gloves.
Protective mask and glasses or visor if risk of splashing exists.
Appropriate anchor to secure lines.

Method (Closed system)
1. Clean work area with neutral wipes.
2. Connect and prime all giving sets and tubing, ensuring there is no air in tubing.
3. Perform hand hygiene.
4. Cease flow rates through old tubing / pumps.
5. Clamp the central venous catheter near the port.
6. Don non-sterile gloves.
7. Disconnect tubing at catheter, clean needless injection port with antiseptic wipe and attach new tubing firmly, using aseptic non touch technique.
8. Check that all connections are secure.
9. Anchor tubing.
10. Set flow rate as per medical order.
11. Dispose of equipment appropriately.
12. Perform hand hygiene.
13. Document line change on CVC in the patient's progress notes and on the CVAD Observation Form

Line Change (Open system).
This procedure is called a Line change open system as the line is opened to air when the bung is changed with the clamps on the line. The patient is also at higher risk for infection and should be only performed when necessary. Lying the patient flat will further decrease the risk of air embolus during cap / IV administration set changes. This should be considered when positioning patients wherever possible.

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

Equipment

- Clean work area e.g. trolley with waste disposal bag.
- Dressing pack.
- Protective sheet.
- Appropriate antiseptic solution for non- skin contact e.g. 0.5% Chlorhexidine in 70% Alcohol solution.
- Sterile gloves.
- Needless bung (1 for each lumen of Catheter)
- Gauze squares (3 for each lumen of Catheter)

1. Perform hand hygiene.
2. Place protective sheet underneath clamped catheter hubs.
3. Ensure all lumens of catheter are **clamped**
4. Perform procedural / aseptic hand hygiene and don sterile gloves
5. Place sterile towel under lumens
6. Hold lumen with clean gauze near to hub using non-dominant hand
7. Clean the hub at connection with solution soaked gauze
8. Repeat this a second time,
9. Instruct patient to take a deep breath and hold it.
10. Remove the existing needleless bung / IV administration set using the gauze.
11. Clean a third time around hub of the catheter ensuring all grooves are clean and free of debris.
12. Replace with new needleless bung.
13. Instruct patient to breathe again.
14. Repeat steps 6 to 13 for each lumen of the catheter.
15. Flush and repeat heparin lock device after needless bung change as required.

Needle Access of a Venous Access Port

Equipment

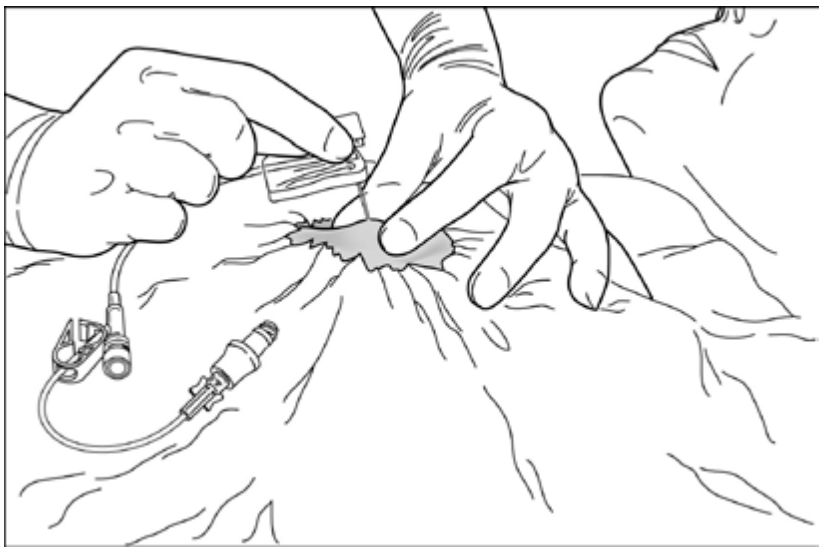
- Dressing pack
- Sterile Gloves
- Appropriate antiseptic solution for non-skin contact
- Right angled non-coring needle (e.g. Gripper needle □)
- Needless injection port (2 for Gripper needle)
- 2 x 10mL luer-lock syringes
- Transparent semi-permeable polyurethane dressing (e.g. OpSite IV 3000® or Tegaderm®)
- 1 x 10mL 0.9% sodium Chloride for injection
- 1 x 5mL heparinised saline (50Units/5mL)
- 1 x 18g blunt needle

Method

1. Clean work area with neutral wipes.
2. Locate port and assess site for appropriateness of procedure and size of non-coring needle that is required.
3. Position patient as appropriate.
4. Check injectate solutions with another Registered Nurse, Medical Officer or qualified Enrolled Nurse.
5. Perform procedural / aseptic hand hygiene and don sterile gloves

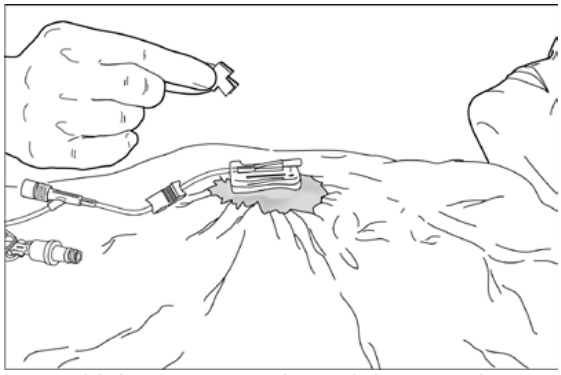
CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

6. Clean port site with antiseptic solution for non-skin contact in an increasing circular motion using friction. Cover an area larger than the approximate size of the dressing to be used. ***NOTE:*** *Receptacles containing skin preparation solution should be removed from the sterile setup following application of the solution to the skin to avoid solutions being administered by the wrong route.*
7. Clean port site with antiseptic solution for non-skin contact in an increasing circular motion using friction. Cover an area larger than the approximate size of the dressing to be used.
    a. ***NOTE:*** *Receptacles containing skin preparation solution should be removed from the sterile setup following application of the solution to the skin to avoid solutions being administered by the wrong route.*
8. Draw up injectate solutions in 2 x 10mL syringes.
9. **Prepare and prime needle and tubing. Note: GRIPPER NEEDLE –** Attach needless injection ports to both entry ports of the gripper needle extension tubing, prime and clamp.
10. Fold the sterile drape in quarters and tear a hole in the centre to create a fenestrated drape.
11. Place the sterile towel over the port with the port visible through the hole
12. Stabilise port with your index finger and thumb.
13. Insert needle at a 90^{o} angle to the skin and push until the needle touches the base. **Caution: Do not push too firmly into the base as this will damage the needle causing it to bend'**

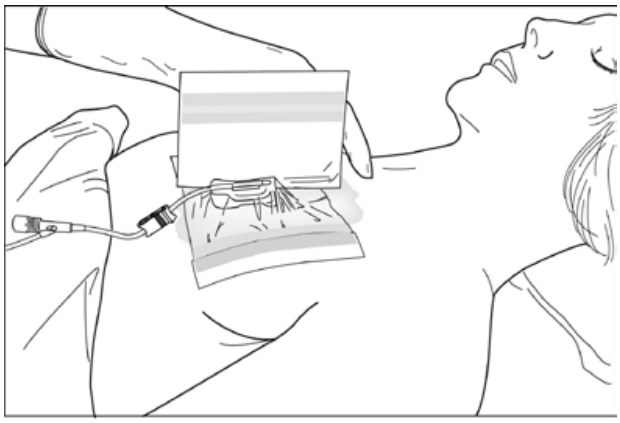


14. Connect an empty 10mL syringe and aspirate withdrawing 3-5mLs of blood
15. Disconnect the syringe with blood and discard
16. Connect the 10mL syringe with saline and flush and lock the port using a pulsatile motion
17. Remove the plastic clip for holding.

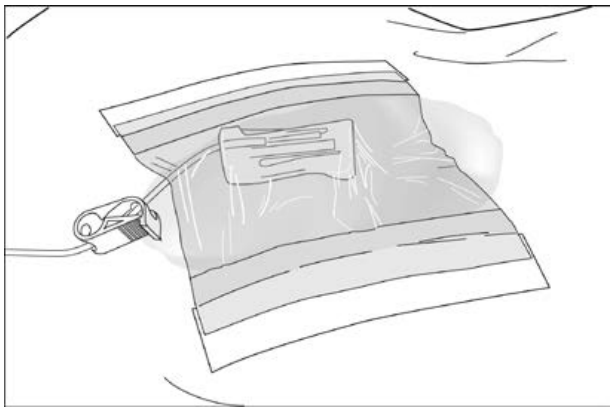
CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd



18. Fold the fenestrated towel downward to expose the area around the port.
19. Place the TSM dressing loosely over the port in the same manner as applying TSM to other CVAD's ensuring the port is at the centre of the dressing.



20. Mould the dressing around the port and onto the skin, to remove as much air pocket as possible



21. Remove plastic tabs and place around non-reinforced edges of the dressing to create a window frame.
22. If the port is to be used immediately connect a new IV-administration line and fluids.
23. If the port is not to be used immediately heparin lock line.

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

Educational notes

Ports should not be used if the skin is red, inflamed or any signs of infection are present.

- If the site becomes red and inflamed or discharge around the needle becomes apparent while in use, the needle must be removed and alternative access provided until skin integrity resolves.
- In specific situations where alternative access is not available and there is some good area around the site, the skin may be pulled to one side to allow access via unaffected skin. This should only be done in consultation with CNC or patient's medical consultant.
- Huber needles may be used in specific situations where a Gripper is not suitable (e.g. the needle length required is available in Huber, but not Gripper). Huber needles are not safety devices and therefore should not be used routinely.

Removal of Needle from a Venous Access Port

Equipment
Non-sterile gloves
Gauze
Band-Aid
Sharps bin
2 x 10mL syringe
10mL 0.9% Sodium Chloride
5mL heparinised saline (50 Units/5mL)

Method

1. Clean work area with neutral wipes.
2. Perform basic hand wash and don non-sterile gloves.
3. Flush and heparin lock device
4. Remove dressing
5. Stabilise port reservoir between thumb and forefinger.
6. Pull lever to remove needle out vertically away from skin until it clicks into place
7. Retract the needle hub away from the skin and place directly into the sharps bin.
8. Cover site with a band aid and instruct patient that this can be removed after 2 hours)

Heparin Locking of Central Venous Access Devices

To be prescribed on the prn section of the NIMC.

- A central venous access device must be heparin locked when not in use.
- Heparinised-saline is prescribed by a medical officer.

Device	Concentration	When
Peripherally inserted central catheter (PICC)	Heparinised Saline 50 units/5mLs per lumen	At completion of each infusion/injection or weekly if the lumen is not being used.
Venous Access Port (e.g. Port-a-Cath)	Heparinised Saline 50 units/5mLs	After each infusion/injection or monthly if the lumen is not being used.

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

Equipment

- Antiseptic wipes (either 70% alcohol wipe, or 2% Chlorhexidine wipes)
- 2 x10mL luer-lock syringe (3 syringes if heparin needs to be removed first)
- 10mL 0.9% Sodium Chloride for injection.
- Locking solution- refer to Solution Guidelines
- Plastic backed blue protective sheeting
- Non-sterile gloves

Solution Guidelines ***Never use anything smaller than a 10mL syringe to heparin lock a CVAD, as it may cause the device to rupture.*** *(Exception: 5mL syringe may be used on apheresis and dialysis catheters for heparin locking)*

Method

1. Preform hand hygiene
2. Check injectate solutions with another nurse or medical officer.
3. Position protective sheet to protect patient and bedding from soiling.
4. Draw up flushing & locking solutions.
5. Perform basic hand hygiene and don non-sterile gloves.
6. Open antiseptic wipes without removing wipes and hold in non-dominant hand.
7. Clean injection site with wipe(s) using dominant hand for at least 30 seconds each. Allow to dry for a minimum of 30 seconds. (Do not place catheter hubs back onto non-sterile protective sheeting)
8. Connect empty syringe and aspirate 3-5mLs heparin (if required)
9. Connect 10mL syringe containing normal saline, unclamp central venous access device with non-dominant hand, and inject saline into the line using a pulsatile motion.
10. Clamp device & remove syringe.
11. Connect 10mL syringe containing locking solution. Unclamp device & inject locking solution.
12. Clamp device as last 0.5mL of locking solution is being injected, so as to create a positive pressure. This minimises blood reflux into the catheter tip.
13. Remove syringe.

Accessing CVAD and Removing Heparin

Heparin should always be removed prior to using a CVAD regardless of the dose used to lock the device. *Withdrawing prior to use has the additional benefit of reducing the potential risk of creating a septic shower when flushing.*

Equipment

- Clean work area e.g. trolley with waste disposal bag and sharps container.
- Antiseptic wipes (either 70% alcohol wipe, or 2% Chlorhexidine wipes) 2 x 10mL luer-lock syringe
- 10mL 0.9% Sodium Chloride for injection
- Plastic backed blue protective sheeting
- Protective mask and glasses or visor if risk of splashing exists
- Non sterile gloves

Method

1. Clean work area with neutral wipes
2. Check injectate solution with another nurse or medical officer.
3. Position protective sheet to protect patient and bedding from soiling.
4. Draw up flushing solution.

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

5. Perform basic hand wash and don non-sterile gloves.
6. Open wipes without removing wipes and hold in non-dominant hand.
7. Clean needless injection port with wipes using dominant hand for at least 30 seconds each. Allow to dry for a minimum of 30 seconds. (Do not place catheter hubs back onto non-sterile protective sheeting.
8. Connect empty syringe and aspirate 3-5mLs of blood, hence removing heparin.
9. Connect 10mL syringe containing normal saline, unclamp CVAD with non-dominant hand, and inject saline into line using a pulsatile motion.
10. Clamp device & remove syringe.
11. Remove syringe and connect IV lines or heparin lock.

Blood taking via a Central Venous Catheter
Routine blood sampling via CVAD is only performed on patients with difficult venous access or requiring repeated venepuncture due to the increased risk of infection with multiple manipulations.

Equipment
- Clean work area e.g. trolley with waste disposal bag and sharps container
- Blood form and appropriate tubes
- Vacutainer holder and adaptor
- Antiseptic wipes (either 70% alcohol wipe, or 2% Chlorhexidine wipes)
- 2 x10mL luer-lock syringe (3 syringes if heparin needs to be removed first)
- 10mL 0.9% Sodium Chloride
- Heparinised Saline
- Plastic backed blue protective sheeting
- Protective mask and glasses or visor if risk of splashing exists.
- Non sterile gloves

Method
1. Clean work area with neutral wipes
2. Check injectate solutions with another nurse or medical officer.
3. Perform basic hand wash and don non-sterile gloves.
4. Position protective sheet to protect patient and bedding from soiling.
5. Draw up flushing & locking solutions.
6. Open wipes without removing wipes and hold in non-dominant hand.
7. Clean injection site with alcohol wipes using dominant hand for at least 30 seconds. Allow to dry for a minimum of 30 seconds. (Do not place catheter hubs back onto non-sterile protective sheeting)
8. Connect empty 10mL syringe to needless injection port and withdraw 10mL blood to be discarded.
9. Clamp catheter, disconnect and discard 10mL syringe
10. Connect vacutainer and adaptor to needless injection port
11. Connect blood tubes to vacutainer and allow to fill one at a time (clamp catheter when changing blood tubes)
12. Gently rotate each blood tube when it is full.
13. Clamp catheter and remove vacutainer when all blood tubes are filled.
14. Flush and heparin lock as per procedure.

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Educational note:
- The first 10mLs is retained and used when blood is collected for culture and sensitivity

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

Removal of a Central Venous Catheter

- CVADs are removed by a Medical Officer or a Registered Nurse who has been assessed and competent (See Appendix 1: Removal of CVAD Competency Assessment).
- Removal of the CVAD must be documented in the progress notes by a Medical Officer.
- Always remove CVAD whilst patient lying supine or tilted slightly head down.

Equipment

- Clean work area e.g. trolley with waste disposal bag and sharps container
- Dressing Pack
- Stitch cutter (if CVC is secured with suture)
- Sterile gloves
- Sterile scissors (if catheter tip specimen is required)
- Specimen jar (if catheter tip specimen is required)
- Sterile specimen swabs for swabbing catheter insertion site (if required)
- Gauze and IV 3000 opsite to maintain airtight dressing
- Alcoholic chlorhexidine or 70% ethanol (unless has an allergy)
- Plastic backed blue protective sheeting
- Protective glasses and facemask or visor if risk of splashing exists

Method

1. Ensure that a medical officer has documented that the central venous catheter is to be removed
2. Clean work area with neutral wipes
3. Position patient in a supine position, or as low as is clinically indicated and tolerated by the patient.
4. Perform baseline observations.
5. **Please note: For Peripherally Inserted Central Catheters (PICC), the patient can lie or sit for the removal of the procedure providing the arm is able to be abducted.**
6. Perform basic hand wash.
7. Disconnect IV lines if present (If an open system recap)
8. Remove existing dressing and StatLock® (if present).
9. Observe site for inflammation / swelling / leakage.
10. Perform procedural / aseptic hand hygiene and don sterile gloves.
11. Clean catheter site and surrounding skin with 70% alcohol using a circular motion.
12. Cut and remove suture (if present)
13. Instruct patient to take a deep breath and hold. (Practice this movement with patient first. Inform patient that the catheter will be removed during the patient's end expiration).
14. Grasp catheter at skin level with sterile forceps using your dominant hand.
15. Remove the catheter and place the distal tip on the sterile dressing field.
16. Simultaneously apply a sterile island dressing over the site to achieve haemostasis and an airtight seal.
17. Instruct the patient to resume breathing as normal.
18. Inspect catheter tip to ensure it is intact.
19. Instruct patient to remain in supine position for 30-60 minutes, perform observations whilst in supine position.
20. Return patient to natural position after 30-60 minutes. Perform observations.
21. Review dressing and wound site daily. Re-dress daily until healed.
    a. Once removed, prevent tip contamination
    b. Place on sterile field and cut with sterile scissors
    c. Place in correctly labelled specimen jar

- Dressing should remain insitu for at least 24 hours to reduce the risk of air embolism.

LOCAL OPERATING PROCEDURE

CLINICAL POLICIES, PROCEDURES & GUIDELINES

Approved by Quality & Patient Safety Committee
16/7/15

CENTRAL VENOUS CATHETER ACCESS DEVICE (CVAD) MANAGEMENT cont'd

Educational notes:

- The presence of an intact catheter tip must be recorded in the patient's progress notes.
  - Catheter tip and exit site swab should be sent for micro-culture and sensitivity in patients who have the catheter removed due to suspicion of sepsis or if the patient is febrile. Other circumstances where sending the tip is indicated include if the catheter exit site is erythematous, red, tender, inflamed or there is a discharge.
  - If the catheter tip is required to be sent for culture:

Discharge with CVAD insitu

All patients discharged with a CVAD insitu are to be provided with:

- Instructions on care of CVAD (e.g. dressing care, showering). See patient information brochure in P drive.
- Additional dressings in the event that the dressing is no longer intact
- Information on signs and symptoms which require treatment and notification to nominated contact person/ward/unit/gynae clinic (e.g. redness, swelling, fever, bleeding)
- Contact details of ward/unit/gynae clinic, in the event of any concerns with CVAD.

References:

Arrow International. 1996. Arrow Multiple Lumen Central Venous Catheter: Nursing Care Guidelines.
http://development.aci.health.nsw.gov.au/networks/intensive-care/ic-manual/cvad
http://intensivecare.hsnet.nsw.gov.au/five/doc/intensive%20care%20collaborative%20guidelines/Final%20Version%20CVC%20guideline%20nov%205.pdf
CDC. 2002. Guidelines for the prevention of intravascular catheter-related Infections. MMWR. 51(RR10):1-26
NSW Health. PD2011_060 Central Venous Access Device Insertion & Post Insertion Care
CDC 2011. Guidelines for the Prevention of Intravascular Catheter-Related Infections
Infusion Nurses Society. 2006. Infusion nursing standards of practice. J Infus Nurs. 29(1): S1
POWH 2012 Central Venous access Devices Business Rule.
Pronovost PJ, Wu AW, Sexton JB. 2004. Acute decompensation after removing a central line: practical approaches to increasing safety in the intensive care unit. Annals of Internal Medicine. 140(12):1025-33

REVISION & APPROVAL HISTORY

Additions to Method & Educational notes April 2016
Reviewed and endorsed Gynaecology Services Division Management Committee 30/4/15
Approved Quality & Patient Safety Committee 15/10/09
Endorsed by Director of Anaesthetics August 2009
Replaced Central Venous Cather Management – Adult
Approved Quality Council 16/10/06
Reviewed October 2006
Approved Quality Council 17/5/04

FOR REVIEW : JULY 2018

……/Appendix

APPENDIX 1 – Removal of a Central Venous Access Device

Competency assessments must be performed By Registered Nurses and Midwives prior to attending this procedure.

Element	Performance Criteria	yes	no
Confirms indication for the removal of the CVAD	Checks patient's health care record to ensure documented medical order for removal of CVAD		
Explains procedure to the patient.	Demonstrates and practices holding breath – informs patient of need to remain in supine position for 30-60 minutes following removal of device. Alternative intervention is explained and demonstrated if the patient is unable to hold their breath &/or lay supine		
Correctly cleans trolley and assembles necessary equipment.			
Correctly positions patient in supine position with head slightly down (or as low as is clinically indicated and tolerated Note: For removal of PICC patient can lie or sit provided the arm can be abducted.	Aware this is to reduce the risk of aspirating air into venous circulation.		
Observes site for inflammation/swelling/leakage.			
Is able to state the position of the CVAD and possible risks associated with the procedure.	Aware that resistance could occur and action to take, aware of other problematic causes- venospasm, phlebitis & thrombophlebitis		
Uses aseptic technique to remove dressing and clean site.			
Cuts and removes anchoring suture (if applicable).			
Instructs patient to take a deep breath and hold - informs patient that the catheter will be removed during the patient's end expiration.	Is aware that this is to prevent an air embolism due to the negative pressure created on inspiration and air being able to enter the circulation whilst removing line.		
Removes catheter with continuous, smooth, steady movement while patient is holding breath or breathing out & simultaneously applies pressure with sterile gauze. Then applies occlusive island dressing when site is sealed.	When a CVAD is removed, the entry wound is immediately sealed with an air occlusive island dressing to prevent probable air embolism and achieve haemostasis.		
Checks that CVAD tip is intact and informs MO if part is missing			
Sends catheter tip for culture indicated	Able to explain reasons why the catheter tip would be sent for culture.		
End procedure, ensures patient comfort and haemodynamic stability	Explains to patient the need for them to lie flat for 30-60 minutes following removal and takes observations at 15mins and at 1 hour.		
Educates patient on followup care	Explains to patient the occlusive dressing is to remain insitu for 24 hours.		
Disposes equipment and documents procedure in the patient's progress notes.			

Name: _____

Date:_____

Competent Yes _____ Not yet

Comments:_____

Assessors Comments:_____

Signature of Assessor:_____