Policy Compliance Procedure

Title: Central Venous Access Device (CVAD) Removal

Governing Policy: NSW Health Policy PD2011_060 Central Venous Access Device Insertion and Post Insertion Care

Document Number: LH_PCP2015_C03.18

Approved by: Director of Nursing and Midwifery Services
General Manager

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Previous Review Dates: 09/97, 12/02, 08/04, 11/05, 12/09, 2/14, 1/15

Related Standards

- Standard 4
- Standard 3

This Policy Compliance Procedure is based on the NSW Health Policy PD2011_060 Central Venous Access Device Insertion and Post Insertion Care. Staff can access this policy for additional information as required.

Related Liverpool Policy Documents:
- C03.16 Central Venous Access Devices (CVAD): Care and Management
- C03.17 Central Venous Access Devices Insertion Guidelines
- C06.03 Hand Hygiene
- C06.32 Aseptic Technique

1. Liverpool Specific Procedure/ Protocols

These apply to both short and long term non-tunneled CVAD’s. These include:

- Central venous catheters: Single or multiple lumen catheters
- Percutaneous Haemodialysis/Apheresis catheters (multiple lumen)
- Peripherally Inserted Central Catheters (PICC): Single or multiple lumen
- Femoral Catheters: Single or multiple lumen catheters

1.1 Accreditation Requirements

- Care and management of central venous access devices (CVAD) will be in accordance with the NSW Central Venous Access Device Insertion and Post Insertion Care policy and Liverpool Hospital specific protocols.
- Accredited Registered and Accredited Certified Enrolled Nurses may attend to general care of the CVAD.
- Staff must undertake and successfully complete the accreditation process for Removal of a Central Venous Access Device found in Appendix 1 of this document.
- The CNC for Central Venous Access and Parenteral Nutrition can be contacted on Ext 83603 or Pager #48886.
1.2 General
 Medical Officer or CNC Central Venous Access and Parenteral Nutrition (PN) will document in the patient’s health care record the need for removal of the CVAD. If the patient is anticoagulated, the Medical Officer must also document the plan for therapy both, for before and after the procedure.
 For suspected infected catheters, two sets of blood cultures from two different sites should be collected peripherally prior to removal of the line – or within no longer than an hour before or after CVAD removal. Refer to Liverpool Policy C01.49 Blood Culture Collection.
 A Central Line Associated Blood Stream Infection (CLABSI) is a primary BSI in a patient that had a central line within the 48-hour period before the development of the BSI and is not bloodstream infection related to an infection at another site.
 A Catheter Related Blood Stream Infection (CRBSI) is a clinical definition, used when diagnosing and treating patients. It requires specific laboratory testing that more thoroughly identifies the catheter as the source of the BSI.

Clinical signs of suspected line infection include:

<table>
<thead>
<tr>
<th>SYSTEMIC</th>
<th>LOCAL</th>
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<tbody>
<tr>
<td>* Febrile</td>
<td>* Redness</td>
</tr>
<tr>
<td>* Tachypnoea</td>
<td>* Tenderness</td>
</tr>
<tr>
<td>* Rigors</td>
<td>* Swelling</td>
</tr>
<tr>
<td>* Increased white cell count</td>
<td>* Pain</td>
</tr>
<tr>
<td>* Hypotension</td>
<td>* Purulent exudate</td>
</tr>
</tbody>
</table>

 If these signs cannot be attributed to another condition or cause, then catheter infection must be suspected.
 Contact the CNC, Central Venous Access & PN or Infection Control CNC. If unavailable, contact patient’s treating team for assessment of catheter and insertion site.
 A medical officer must be informed and consider collection of blood cultures and catheter tip (on removal).
 Aseptic technique required
 Ensure IV access is available via another site prior to removal (if required)
 Clean site by swabbing with Chlorhexidine 2% in 70% isopropyl alcohol
 Ensure all specimens collected are clearly marked with date, time, and the site the catheter was removed from (or lumens collected from if sample taken from CVAD)

2. Procedure Steps

**Equipment**
- Dressing trolley
- Dressing pack
- Sterile gloves
- Suture cutter
- Chlorhexidine 2% in 70% isopropyl alcohol skin prep
- Sterile gauze dressing
- Sterile semi-permeable transparent dressing
- Protective eye wear, mask, gown
- Sterile scissors/straight scalpel blade (for cutting off CVAD tip post removal – if infection suspected)
- Sterile specimen jar (only for infected CVAD tip collection)
- Pathology request form/order (only for infected CVAD culture and sensitivity)

2. Check the patient’s coagulation status.
3. Explain procedure to patient.
4. Ensure peripheral IV access is obtained, if required prior to removal of CVAD.
5. Ensure blood cultures are taken prior to line removal only for suspected infected CVADs. Aseptic collection technique essential. Refer to [Liverpool Policy C01.49 Blood Culture Collection]

6. If not contraindicated, position patient supine with head slightly down. Lying patient flat reduces risk of air embolus by increasing central venous pressure.

7. Wash hands.

8. Set up equipment.

9. Ensure bed is at the right height to reduce risk of clinician injury.

10. Turn off infusions and remove all administration sets/infusions.

11. Wash hands using correct technique and appropriate antiseptic hand wash.

12. Apply non-sterile gloves

13. Remove existing dressing and check site.

14. If there are signs of infection as outlined under patient related procedure/protocols, ensure that blood cultures are taken before removing the CVAD.

15. Take wound swab of exit site (only if wound swab is requested or exudate is evident).

16. Put on mask, wash hands and apply sterile gloves

17. Clean site with 2% Chlorhexidine in 70% alcohol.

18. Allow antiseptic to dry completely

19. Remove sutures or securement devices.

20. Instruct patient to take a deep breath and hold until told to release (peak inspiration)

21. Removal of the CVAD should be timed to occur at end inspiration or during expiration for patients that are not on a ventilator. Do not let tip touch skin surface on removal otherwise risk of tip contamination. Place catheter on sterile field if sending it for culture, otherwise, discard as required.

22. If moderate resistance is felt, stop the procedure, secure and apply dressing and contact the CNC Central Venous Access and PN or the admitting team for further review.

23. Should catheter remain in situ as per step 22 or once line is removed, instruct patient to breathe normally again.

24. Apply pressure to site with sterile gauze until bleeding stops (for approximately 3 minutes, or longer if the patient is anticoagulated)

25. Apply occlusive dressing to site once haemostasis has been achieved.

26. Cut tip of catheter off with sterile scissors/scalpel blade, approximately 3-5cm distal to tip, place catheter tip into sterile specimen jar (only if suspected infection).

27. For suspected infected CVADs, ensure micro culture and sensitivity forms are completed by Medical Officer and that blood cultures, tip specimen and entry site swab are labelled correctly and sent to Pathology

28. Discard all equipment appropriately and wash hands

29. The patient must remain supine or in semi-fowlers position for 30-60min post removal of CVAD

30. At least one set of observations must be attended during this time.

31. Ensure bed area and patient are left appropriately (bed height, buzzer within reach etc)

32. Educate the patient regarding potential complications that they should alert staff to (Shortness of breath, bleeding at the site, light headedness, feeling faint etc.).

33. A further set of observations must be attended prior to allowing patient to be fully upright/mobilise

34. Document in the patient’s health care record and on cannula/catheter form CR158.

3. References/ Resources


3. Infusion Nursing Standards of Practice, Intravenous Nurses Society, (2011) Jan/Feb, Volume 34 • Number 1S

Central Venous Access Devices (CVAD) Removal
5. NSW Health PD2011_060 Central Venous Access Device Insertion and Post Insertion Care

Author/ Lead Reviewer: CNC Central venous Access and Parenteral Nutrition
Reviewers: CNC Central Venous Access and Parenteral Nutrition, Staff Specialist– ICU, Drug Policy and Practice Review Committee, Infection Prevention Unit
Endorsed by: Liverpool Policy and Guideline Committee - February 2015
Appendix 1

Removal of a Central Venous Access Device (CVAD) - Competency

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Ward</th>
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Compulsory Pre-reading of the current Liverpool Hospital Policy C03.18 must be completed before proceeding with competency assessment.

I have read and understood all information associated with the Central Venous Access Device and agree to act within the Liverpool Policy C03.18 Removal of a Central vascular access device (CVAD) (which will be updated as required).

Participants Signature: ________________________                    Date:  __/__/__

Requirements: The following criteria must be successfully achieved during supervised assessment on one (1) occasion under the supervision of an accredited CNC/CNE/CNS. All unsuccessful attempts must also be recorded.

Place a tick ✔ for successful criteria.

- Confirms authority for removal & identifies patient correctly
- Ensures Peripheral IV access is obtained if required prior to removal of CVAD
- Explains procedure to patient
- Performs hand hygiene
- Assembles equipment for procedure
- Positions patient flat with head slightly down if tolerated and not contraindicated
- Performs hand hygiene
- Applies non-sterile gloves
- Turns off infusions and removes all administration sets
- Removes existing dressing, disposes of appropriately and checks insertion site
- Ensures blood culture and wound swab attended if signs of infection prior to removing
- Dons PPE, washes hands and applies sterile gloves
- Cleans site with 2% Chlorhexidine in 70% alcohol solution
- Allows Antiseptic to dry completely (approximately 1-2 minutes)
- Removes Sutures or securement devices
- Instructs patient to take deep breath and hold until told to release
- Removes the CVAD at end inspiration or during expiration if not on a ventilator. Does not allow catheter tip to be contaminated should infection be suspected
- Once CVAD removed instructs patient to breathe normally
- Applies sterile gauze square to exit site maintaining digital pressure until bleeding stops (Approximately 3 minutes or longer if patient anticoagulated)
- Applies occlusive dressing to site once haemostasis achieved
- Measures catheter length using a paper tape measure under the sterile plastic of the dressing pack and compares against documented catheter length at time of insertion
- If infection suspected: cuts tip from catheter using sterile scissors, places in specimen jar and sends for culture
- Discards all equipment appropriately
- Performs Hand hygiene
- Instructs patient to remain supine or in semi-fowlers position for 30-60 minutes
- Attends at least one set of observations in this time period
- Attends further set of observations prior to allowing patient fully upright or to mobilise. Documents Procedure in clinical notes.

Date Assessor: Name/ Position / Ward

Successful Unsuccessful: Reassessment arranged for

Accreditation has been recorded in the ward/ department by the NUM/ CNE/ CNC

Print (name) (date)