REMOVAL OF A PICC, TUNNELLED UNCUFFED OR NON-TUNNELLED CVC

LOCAL CVAD PROCEDURE ©

To be read in conjunction with SCHN CVAD Practice Guideline Section 3.12

Practice Points:

All CVADs should be assessed by both the medical and nursing teams on a daily basis to determine ongoing need. If the catheter is no longer considered necessary it should be removed. It is the responsibility of the medical team to assess if catheter removal is required. Removal orders must be documented by the medical team in the progress notes prior to removal.

Tip culture should only be performed if there is a specific indication such as unexplained fever, significant erythema or exudate at the insertion site of the peripheral catheter tip.

Non-tunnelled CVCs should not be trimmed. Occasionally non-tunnelled CVCs can be trimmed during cardiac surgery by the Cardiothoracic surgeon during the procedure, check the Operation Report for any documentation. Uncuffed tunnelled CVCs and PICCs are always trimmed. It is good practice to consult the CVAD Insertion Form in Powerchart to check inserted catheter length and if the catheter was trimmed on insertion, prior to catheter removal.

When removed, the catheter tip must be inspected to ensure it is intact if known to be present or if the catheter has been trimmed the length should be checked against the documented measure on insertion. All catheters removed should be checked for integrity to ensure that no fragments remain inside the patient.

Removal of the catheter **must** be documented in the CVAD Removal Form in Powerchart.

The 2 major complications associated with the removal of a CVAD are air embolism and bleeding. Other complications include haematoma, infection, dislodged thrombus and breakage of the catheter tip.

Signs and symptoms of an air embolism include cyanosis, hypotension, increased venous pressures, and rapid loss of consciousness. This is a medical emergency. Position patient head down on left side, apply 100% oxygen, follow emergency protocols. Commence Basic Life Support as needed.

Refer to the CVAD Guideline (Section 3.12) for guidance on the safe removal of tunnelled cuffed central venous catheters in a ward setting. The guidance is suitable for patients who have had a cuffed CVC placed *for a short period of time* and have not established tissue ingrow around the cuff and therefore potentially avoiding the need for a GA for CVC removal, particularly in a critical care setting.

Note: VasCath/Gamcath Removal

- Prior to removing the Vascath/Gamcath, the patient's platelet count must be greater than 50 x 10^9/L. Peripheral coagulation studies also need to be attended and corrected if required prior to removal.
- The non-tunnelled Vascath/Gamcath can be removed by a CVAD accredited practitioner competent in CVAD removal.
- Due to the large bore catheter size, pressure will need to be applied to the site for up to 10-15 minutes in order to achieve haemostasis.

Note: There are patients who have Perm a Cath (trade name) inserted similar to VasCath but are permanent catheters for long term use for either haemodialysis or apheresis treatment.

These can also be accessed by CVAD accredited staff.

Only non-tunnelled Vascaths can be removed by nursing staff.

Equipment

- Gather equipment as per ANTT risk Assessment –Standard or Surgical
- Stitch cutter (for removal sutures at exit site, if required)
- Sterile gauze
- Occlusive dressing
- Sterile scissors and sterile specimen jar if catheter tip culture required
- 2% chlorhexidine in 70% alcohol swab stick

Procedure

Practice Point: Explain the intended procedure to the patient/family/carer and obtain verbal consent.

1. Attend baseline observations prior to commencing procedure.
2. Turn off all infusions and clamp all lumens of the catheter.
3. Set us as per ANTT risk assessment – Standard/Surgical
4. Position patient supine with head slightly down (if tolerated).

Practice Point:

This is to increase the pressure in the large veins to above atmospheric pressure, which reduces the risk of air aspirating into the venous circulation.

5. Perform hand hygiene and don gloves.

6. Remove dressing and release catheter from securement device.
7. Remove gloves and perform hand hygiene
8. Don gloves
9. Remove sutures if necessary.
10. Clean exit site with 2% chlorhexidine in 70% alcohol swab stick and allow to dry.
11. Hold gauze over exit site with non-dominant hand.

> **Practice Points:**
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> If removing uncuffed tunnelled CVC, pressure should also be applied to the insertion site (commonly jugular or femoral) on the corresponding side immediately after catheter removal, as well as applying pressure to the exit site. Consider seeking assistance from second nurse to apply pressure to insertion site if required.
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> Breath holding decreases the risk of air entering the exit tract and causing an air embolism.

12. If the patient is able, ask them to take a deep breath and hold. Using dominant hand, hold catheter at point closest to exit site and gently remove using a slow steady motion. If the patient is unable to hold their breath, then remove the catheter in the same manner at the end of inspiration.

> **Practice Point:** If resistance is encountered, do not continue with removal, apply transparent dressing and call Vascular Access CNS2 or Anaesthetics. Stay with the patient until reviewed by Vascular Access CNS2 or Anaesthetics.

13. Place catheter onto the sterile field and place tip in centre of field if a tip culture is required.
14. Prompt patient to release breath hold if required.
15. Apply continuous pressure over exit site (and insertion site if required) for a minimum of 5 minutes post removal until bleeding has ceased.
16. Apply occlusive dressing to exit site.
17. Inspect the tip of the catheter to ensure it is intact. If catheter is trimmed, measure the catheter length and compare to ‘Inserted Catheter Length’ and ‘external catheter length’ in CVAD insertion record to confirm that removed catheter is intact. If these values do not correlate indicating a possibility of part of the catheter remaining internally, call a Rapid Response to initiate urgent medical review.
18. Observe for the signs of complications and maintain supine bed rest (if possible) or semi-fowlers if supine is not tolerated, for a minimum of 30 minutes.
19. Attend full set of observations (refer to CERS Procedure) on completion of procedure and once during 30 minutes post catheter removal, prior to resuming upright positioning.

20. Send tip to Microbiology if indicated. Cut approximately 2-3cm from the end of the catheter with sterile scissors and using sterile forceps place tip of catheter in the sterile specimen jar. Ensure Pathology request has been completed.
21. Discard waste in appropriate receptacles and return equipment to designated areas.
22. Advise the patient to keep dressing dry and intact for first 24hours post removal, dressing can be removed 2-3 days post catheter removal.

> **Practice Point:**
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> Patient must be observed for a minimum of 1 hour post removal before being discharged home or in the care of the parent.

23. Document in patient's medical record as per minimum documentation requirements in Section 1.6 in CVAD Guideline. Note the presence of an intact tip and/or confirmed catheter length on removal.

Revision History

Version (date)	Approved by	Amendment notes *(summary of what was changed)*
14th Nov 2023	PPG Committee	Due for mandatory review – no changes made
6th Dec 2021	CNS2 Vascular Access	Minor review to add statement about removing tunnelled cuffed CVCs in a ward setting.
11th May 2020	PPG Committee	No major practice changes removal of CVADs v5 CVAD Guideline. Now presented in CVAD Local Procedure.