Collaborative Regional Benchmarking Group

Central Venous Access Device (CVAD) Management in Critical Care

Aim: To provide guidance on the management of central lines in Critical Care
Scope: All adult patients with central lines in Critical Care

ASSESS and DOCUMENT

- A CVAD insertion checklist should be used[2,4]
- Document date & time of insertion[1]

Each shift assess and document

- Insertion site for signs of infection using a recognised assessment tool[6] e.g. CLESS, CLIPS
- continued need for CVAD [3,6]

Central Venous Cannulation

Indications for CVAD's in critical care include :

- Administration of vasoactive drugs, drugs with high osmolality or extremes of pH.
- Repeated collection of blood specimens
- Administration of Total Parental Nutrition (TPN)
- Monitoring of central venous pressure (CVP)

STANDARD CVAD MANAGEMENT

1	Effective hand hygiene and ANTT must be performed when accessing the CVAD for medication administration and blood sampling[3].
2	Ensure the CVAD is secured by sutures or with a sutureless catheter securement device[1]
3	Always 'scrub the hub' with 2% Chorhexidine*/70% alcohol for 15 seconds and allow to dry before and after medication administration and taking blood samples[3].
4	Administration lines must be changed as follows : • Continuous infusion lines and transducer sets at least every 96 hours • Blood /blood product administration lines at least every 12 hours or when transfusion episode is completed[3] • TPN/Lipid based solutions must have an exclusive lumen for administration and administration lines changed at least every 24 hours[3]
5	Aseptic technique must be used when changing the dressing. The insertion site must be cleaned with a single-use application of 2% chlorhexidine*/70% isopropyl alcohol. A sterile, semi permeable, polyurethane dressing should be used[3]. A chlorhexidine* impregnated sponge dressing may be used as part of local strategy. Change every 7 days or sooner if soiled, wet or no longer intact[3].
6	Ensure the CVP flush bag is 0.9% Normal Saline, the pressure is maintained at 300mmHg and the transducer has been calibrated (zero'd) each shift and after each patient repositioning[5].

ADDITIONAL CONSIDERATIONS

- Use of multi way connectors is acceptable providing this does not result in unnecessary, unused ports
- Any needle free ports in use should be changed as per manufacturers instructions
- Keep insertion site visible at all times if possible
- Lumens not used for continuous infusions should be flushed at least once per shift with sterile normal saline for injection to maintain patency[3]
- Consider the use of a daily wash with chlorhexidine* as part of local strategy to reduce Catheter Related Blood Stream Infections

* **use alternative if chlorhexidine allergy present**.

COMPLICATIONS

but not limited to :

- Infection
- Occlusion
- Dislodgement
- Air embolism
- Extravasation
- Thrombosis
- Pneumothorax
- Arrhythmias
- Arterial/Great vein puncture

Please see your units full guidelines for more information

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West Yorkshire Critical Care & Major Trauma Operational Delivery Networks
North Yorkshire & Humberside Critical Care Network NHS
NHS NOECCN North of England Critical Care Network
South Yorkshire and Bassetlaw Critical Care Operational Delivery Network

	References
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3	Loveday HP, Wilson JA, Pratt RJ, Golsorkhi M, Tingle A, Bak A, Brown J, Prieto J, Wilcox M UK Department of Health (2014) EPIC3: National Evidence based gudielines for preventing healthcare-associated infectiosn in NHS Hospitals. Journal of Hospital Infection Vol 86 (Supp 1) S1-S70.
4	Centre for Perioperative Care, National Safety Standards for Invasive Procedures 2 (NatSSIPs) https://cpoc.org.uk/sites/cpoc/files/documents/2022-12/CPOC_NatSSIPs2_Summary_2023.pdf
5	Mallett J, Albarran J, Richardson A (eds)(2013) Critical Care Manual of Clinical Procedures and Competencies. Wiley Blackwell.
6	Guidelines for the Provision of Intensive Care Services V2.1 (GPICS)(2022) The Faculty of Intensive Care Medicine / Intensive Care Society.