

Obtaining Blood Sample from a Central Venous Access Device (CVAD)

Central Venous Access Devices (CVADs) are longer term venous access devices that are used to infuse non-peripherally compatible medications and reduce the number of devices a patient will require to complete treatment. Examples of CVADs include tunnelled-cuffed central venous catheters (tcCVC) and peripherally inserted central catheters (PICCs). Any catheter 3Fr or greater may be used for blood sampling. This includes the lumens of a 4Fr or 5Fr double lumen catheter, despite the individual lumens each being smaller than 3Fr. For details on scope of practice for using CVADs, check your workplace's local policy.

1 GATHER EQUIPMENT

When preparing equipment, ensure that you adhere to ANTT® principles, being mindful of all key parts.



Please ensure that hand hygiene is attended to throughout. Personal Protective Equipment (PPE) is used and appropriate for the patient's infectious risk.

Tips for equipment gathering

- If blood cultures are required, ensure that you have enough syringes to obtain culture samples from each lumen. Likewise, ensure you have enough Sodium Chloride 0.9% flushes prepared to adequately flush the catheter.
- When preparing equipment, ensure that you adhere to ANTT® principles, being mindful of all key parts.



ALERT

Syringes of LESS than 10 mL should NEVER be used to INJECT into a CVAD.

Syringes of MORE than 10 mL should NEVER be used to WITHDRAW from a CVAD



2

Attend to hand hygiene. Don clean gloves.



3

Prepare 0.9% Sodium Chloride flushes using aseptic non-touch technique (ANTT®) principles according to medical order and local policies.



4

Protect key parts by placing caps on the syringes. Dispose of sharps in sharps container.



5

Prepare patient. Ensure they are comfortable and understand what is to happen as appropriate to age.



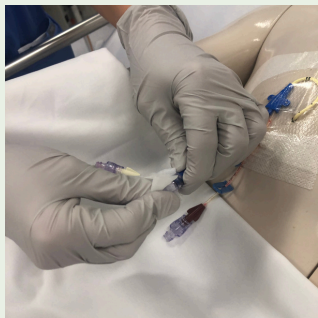
6

Attend to hand hygiene. Don another pair of clean gloves.



7

Vigorously scrub the top and the sides of the needleless access device (NAD) for 15 seconds with Chlorhexidine 2% in Alcohol 70% swabs. Allow to air dry.



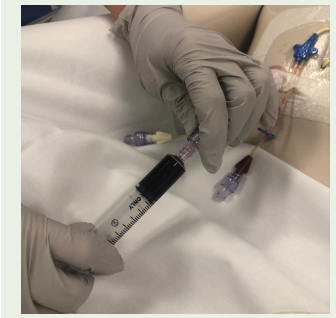
8

Attach 10 mL syringe to the NAD. Withdraw minimum discard volume of blood (3-5mL recommended). Label immediately according to local policy.



9

Attach new syringe and withdraw the volume of blood that is required for sampling.



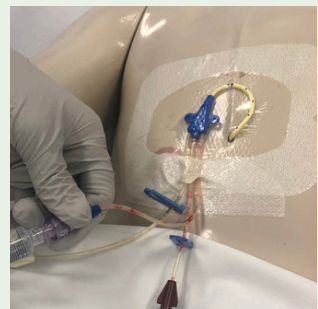
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Administer at least 10 mL of Sodium Chloride 0.9% in a pulsatile manner, ensuring all blood has been flushed from the lumen and NAD.



7

If CVAD access is no longer required, lock with the locking solution as per your local policy. See ALERT box on p3.



8

Send samples according to local policy.



9

Discard equipment and sharps safely and attend to hand hygiene.





ALERT

The type and concentration of locking solution will vary according to patient needs. Please refer to your local policy for the correct concentration for your patient. Ensure you have an appropriate medical order prior to administration.

Documentation

- Document that blood samples have been taken, ensuring to note any issues that may have been encountered.
- Update fluid balance to reflect input and output.
- Specify if CVAD has been locked post collection.

For further information:

[CHQ Work Instruction: Central Venous Access Device \(CVAD\) Blood Sampling](#)

[Video: Blood Sampling from a CVAD \(Central Venous Access Device\)](#)

[Flipchart: Taking a blood sample from a Central Venous Access Device \(CVAD\)](#)

References:

Children's Health Queensland. (2024, June 6). Central Venous Access Device (CVAD) Blood Sampling.

https://qheps.health.qld.gov.au/_data/assets/pdf_file/0031/2233399/wi-03468.pdf/_nocache

Simulation Training Optimising Resuscitation for Kids (STORK) & Vascular Assessment and Management Service (VAMS), Queensland Children's Hospital and Health Service. (2021). Sampling Bloods From a CVAD. <https://vimeo.com/715851369/59723bd67e>

**This Queensland Paediatric Emergency Skill Sheet was developed and revised
by the Emergency Care of Children working group.
Initial work was funded by the Queensland Emergency Department Strategic Advisory Panel.**

Skill Sheet Legal Disclaimer

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- Providing care within the context of locally available resources, expertise, and scope of practice.
- Supporting consumer rights and informed decision making in partnership with healthcare practitioners including the right to decline intervention or ongoing management.

- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary.
 - Ensuring informed consent is obtained prior to delivering care.
 - Meeting all legislative requirements and professional standards.
 - Applying standard precautions, and additional precautions as necessary, when delivering care.
 - Documenting all care in accordance with mandatory and local requirements.
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