

7.0 Permcath/Vascath

Introduction:

This central venous access device is inserted into the central venous system with the tip sitting within the superior vena cava or the right atrium of the heart, the subclavian, Jugular, femoral or antecubital veins. (RCN, 2010, Dougherty & Lister 2008).

Permcath / Vascath

Permcath are non tunnelled long term lines used for haemodialysis or plasmapheresis.

Vascaths are temporary non tunnelled lines used for maximum of three weeks for haemodialysis and haemofiltration or plasmapheresis.. The choice of multi lumen catheter should be made according to the type of treatment required to be delivered to the child. A Quinton Permcath dual lumen catheter is the most common type of Quinton catheter used in OLCHC.

Unlike other central venous Catheters the Heparin used in this catheter must be aspirated and discarded prior to lumen use.

Complications associated with central venous catheters/ Vascular Access

- Catheter related infections – Infection at the exit site, Contamination of the catheter hub, Intraluminal catheter colonization and haematogenous seeding of the catheter.
- Pneumothorax or hemothorax
- Mechanical complications, Access malfunction.
- Fibrin sheaths, Clots.
- Coagulopathies including anticoagulation therapy.

Guidelines for accessing a non-tunnelled Permcath & Vascath

Equipment:

| Requirements for procedure | |
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| <ul style="list-style-type: none"> • Dressing pack • 2.5ml syringes X 2 • 5 ml syringes X 2 • 10ml syringes X 4 • green needles X 2 • filter needle X 1 | <ul style="list-style-type: none"> • disinfection wipe Chlorhexidine 2% in 70% Alcohol • Red cap. • Sterile gloves. • 0.9% sodium chloride X 2 |
| <p><u>Heparin 1:1000 units' preservative free. Initially (may require 1:5000units of preservative free heparin as prescribed by medical team)</u></p> | |

| ACTION | RATIONALE & REFERENCE |
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| <p>Close all windows and doors, decontaminate hands for one minute. Wash Trolley with soapy warm water and clean with alcowipe and allow to air dry.</p> <p>Decontaminate hands for one minute and apply gel. Open sterile equipment onto dressing pack, place syringes in order of use.</p> <p>Prepare disinfection wipes for use</p> <p>Decontaminate hands for one minute using the correct hand washing technique.</p> <p>Put on sterile gloves Draw up 10mls of 0.9% sodium chloride in each 10ml syringe Check if a child is on a fluid restriction as the 0.9%sodium chloride flushes are included In the child's daily allowance.</p> <p>Draw up volume of preservative free heparin 1:1000units or as indicated in the 2.5ml syringe as per prescription. Explain the procedure to your child and their family.</p> | <p>To prevent infection by ensuring aseptic technique is adhered to. (OLCHC, 2011)</p> <p>To ensure items are ready for use</p> <p>Chlorhexidine and alcohol are used to clean the catheter (EPIC 3, 2014, RCN, 2013, CDC, 2011)</p> <p>To prevent infection (OLCHC, 2011)</p> <p>A flush of 10ml of 0.9% sodium chloride into each lumen of the central venous catheter ensures the lumen is free from fibrin streaks. This technique prevents thrombosis in the central venous catheter and maintains a good functioning line.</p> <p>Heparinised saline will reduce the risk of clot formation in the line</p> <p>To encourage co-operation and alleviate fear. (Dougherty and Lister 2011). To remove any micro pathogens at the tip of the catheter and to prevent infection.</p> |

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| <p>Lay a sterile drape under the Permcath / Vascath.</p> <p><i>Clean the red cap. Clean the tip of the lumen with the disinfection wipe.</i></p> <p><i>Attach a 5ml syringe to the lumen and clean the lumen if there is blood present. Withdraw heparin lock (withdraw .1ml extra).</i></p> <p>Attach a 10ml syringe to the lumen; withdraw 10mls of blood ensuring the syringe is elevated at a 45 degree angle to enable the air to reach the top of the syringe. <i>The lumen should be flushed two- three times with the blood to check the patency of the line</i></p> <p>Withdraw sufficient blood volume for tests required. Biochemistry 0.7ml, blood gas 0.5ml and 1ml for haematology. Remove syringe and clean hub.</p> <p>Flush with 0.9% sodium chloride ensuring the lumen is clear from streaks of blood.</p> <p>Administer the heparin and clamp the line as soon as the heparin is at the end of the syringe. Place new red cap onto the end of the lumen Wrap both lumens together in sterile gauze. Decontaminate hands Document in the healthcare record</p> | <p><i>Remove the extra .1ml to ensure all the heparin has been removed from the line. Coagulation screens should be obtained Peripherally.</i></p> <p><i>Observe the line for any sucking, Sluggishness fibrin sheaths. Any of these symptoms may indicate a possible line malfunction. (When symptoms of line malfunction are present, check the line is still insitu and has not moved.</i></p> <p>Reposition the child e.g. Extend the neck or turn the Child on their side. Flush the line with 0.9%sodium chloride.</p> <p>To prevent clots from developing and maintain access.</p> <p>To prevent infection.(OLCHC 2011)</p> <p>An Bord Altranais, 2002, NHO 2012</p> |
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Detail taken from the Nephrourology department - References available in the CVAD Guideline