ADMINISTRATION OF MEDICATION THROUGH CVC

KEY POINTS

- CVCs are not advocated for the administration of intermittent medications e.g. antibiotics. However, in the absence of a peripheral line, or in the case of sepsis, this may be considered after consultation with a Neonatologist. Use a standard aseptic technique throughout procedure. See Infection Control Manual - Framework for Aseptic Technique.

- Longline catheters have a working pressure limit of approximately 760 mmHg for continuous infusions and 900 mm Hg for bolus injections. The smaller the size of the syringe, the greater the pressure generated for any given force.

- A 1ml syringe will generate a pressure of 9 780 mm Hg, a 5ml syringe will generate a pressure of 1 499 mm Hg, and a 10 ml syringe will generate a pressure of 1 033 mm Hg. Therefore it is important to administer medication through a pressure controlled infusion pump when using a longline catheter to minimise the risk of rupturing the catheter.

- If the catheter is to be flushed and it is not possible to use a pump, only a 10ml syringe should be used, ensuring minimal pressure is applied to the plunger.

EQUIPMENT

- Dressing pack
- Appropriate flush solution (only if the medication being infused is incompatible with the solution being infused to the infant)
- Extension set
- Alcohol 70%, 2% chlorhexidine swab

DRAWING UP MEDICATION TO BE INFUSED:

To administer an intermittent medication through a longline catheter it is necessary to draw up extra volume to allow for priming of the line.

The following is an example of how to draw up extra volume for administering gentamicin via a longline:

Gentamicin 1.3mg to be administered:

1. As per medication protocol, withdraw 2mls of gentamicin (80mg/2ml) and dilute to 8 mls = 10mg/ml.

2. Require 1.3mg of gentamicin which is 0.13mls or 13.0 units, therefore to prime the line, withdraw double the required volume (0.26mls or 26 units) and dilute this to 10mls.

3. Administer half of this total volume which is 5mls, to the infant.
PROCEDURE

1. Ensure extension tubing is primed.
2. Thoroughly wipe the needleless bung with 70% alcohol swab/chlorhexidine swab. Catheter hub is major source of contamination.
3. Commence infusion of medication. Note: If the medication is usually given as a bolus, infusion is to be over a minimum of 10 minutes (otherwise refer to medication protocol for infusion time).
4. Once the medication is infused, if it is compatible with the infant’s primary infusion, disconnect the medication syringe and extension set and recommence infant’s infusion. The infant’s primary infusion will flush through the remaining infusion.
5. If the medication infused is not compatible with the infant’s primary infusion, flush the catheter using an infusion through the pressure controlled pump. This infusion is to run over 10 minutes.
6. Extra fluid administered to the infant is to be calculated and documented on the observation chart. Adjustment to the infant’s hourly fluid intake may need to be considered.