Ashford and St. Peter's Hospitals NHS
NHS Trust

WOMEN'S HEALTH AND PAEDIATRICS
PAEDIATRIC DEPT

The use of heparin in the care and maintenance of Central Venous Access Devices (CVADs)

Amendments			
Date	Page(s)	Comments	Approved by
Jan 2009	New Guideline		Paediatric Guideline Group
January 2012		Complete guideline review	Paediatric Guideline Group
March 2018		Whole document review – no changes	Paediatric Guideline Group

Compiled by: Deborah Hopper, Paediatric Pharmacist

In Consultation with:

Ratified by: Paediatric Guidelines Group

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Next Review Date: March 2021

Target Audience: Doctors, nurses and support staff working in Paediatrics

Impact Assessment Carried Out By:

Comment on this

Document to: Deborah Hopper, Paediatric Pharmacist

The CVADs included are Hickman type catheters, Implantable Ports, Peripherally Inserted Central Catheters (PICCs)

These guidelines have been adapted from the London Paediatric Oncology Centres' Supportive Care Protocols 2007 (Royal Marsden shared care protocols).To access the complete shared care document on care of CVADs- see folder on Ash ward.

Skin Tunnelled Central Venous Catheters e.g. Hickman® Lines

Hickman Lines® need flushing at least once a week to maintain patency.
For most children it is practical to flush:
• Before and after drug administration with 5mls Sodium Chloride 0.9%
• After withdrawing blood or flushing off TPN, with 5-10mls Sodium Chloride 0.9%
• Prior to blood sampling (Lipids usually turned off for a minimum of 2 hours) when TPN is running, with 5-10mls Sodium Chloride 0.9%
• At the end of each access with **5mls Heparin Sodium 10 units per ml (Hepsal ®)**
N.B. For babies less flush volume is required, as length of Hickman Line® will be less – This is mostly common sense. The line volume must always be cleared. As a guide you could half the volumes discussed above.

Implantable Ports

Implantable Ports need flushing at least once a month to maintain patency. Please also refer to "Port- implantable" and "Port - Removal" guideline documents

For most children it is practical to flush:
• Before and after drug administration with 5mls Sodium Chloride 0.9%
• After withdrawing blood or flushing off TPN, with 5-10mls Sodium Chloride 0.9%
• Prior to blood sampling (Lipids usually turned off for a minimum of 2 hours) when TPN is running, with 5-10mls Sodium Chloride 0.9%
• At the end of each access with **5mls Heparin Sodium 100 units per ml (Canusal ®)**
N.B. For paediatric ports less flush volume is required, as length of Port will be less – This is mostly common sense. The line volume must always be cleared. As a guide you could half the volumes discussed above.

PICCs (Peripherally Inserted Central Catheters)

PICCs need flushing at least once a week to maintain patency.
For most children it is practical to flush:

- Before and after drug administration with 2-5mls Sodium Chloride 0.9%
- After withdrawing blood or flushing off TPN, with 3-10mls Sodium Chloride 0.9%
- Prior to blood sampling (Lipids usually turned off for a minimum of 2 hours) when TPN is running, with 5-10mls Sodium Chloride 0.9%
- At the end of each access with 5mls Sodium Chloride 0.9%

N.B. For babies less flush is required, as length of PICC will be less – This is mostly common sense. The line volume must always be cleared. As a guide you could halve the volumes discussed above. In babies where sodium load may be a concern, 0.45% sodium chloride may be more appropriate.

N.B. To avoid rupturing PICC line always use 10ml syringes or larger when flushing or administering drugs.

N.B. Always use a pulsating **positive pressure** flush and flush line immediately if blood is visible in the catheter. As PICCs have a valve and use positive pressure there is no need to end each access with heparin.

Blood Sampling

Prior to taking blood samples for U&Es, FBC etc, the CVAD should be aspirated and the first 2-5mls of fluid (depending on the size of the CVAD) should be discarded, **UNLESS** being used for blood cultures. This fluid contains heparin, a small amount of blood and may contain bacteria and clots. The discard sample must not be returned to the patient.

The first 'discard' blood must be used for blood cultures to ensure that the internal contents of the catheter can be tested for infection.