Standard Operating Procedure

“Central Venous Line Exit Site Dressings Post Insertion”

(Modified from SOP CVL exit site dressings January 2009 and reviewed November 2010 by Sr. J Hawkins, Senior oncology Nurse, BCH)

PURPOSE AND OBJECTIVES
To provide evidence based guidance, for partner organisations, on the management of central line exit site dressings, post insertion, to reduce exit site infection rates and incidence of lines lost through “fall out”.

The aim of the SOP is to standardise practice, incorporate guidance from the High Impact Interventions initiative and ensure that the incidence of lines which fall out does not increase as a result of the change in practice. The aim of this practice change is to:

- Maintain low rate of lines lost to fall out.
- Minimise the risk of infection during the immediate post-operative phase.
- Maintain the child’s comfort.
- Detect problems if they occur immediately.

The proposed new technique is compatible with the guidance in the Journal of Hospital Infection (2007) EPIC document.

PERSONNEL COVERED BY THIS SOP
This standard operating procedure applies to all Health Professionals who administer care to infants with long term central venous catheters.

DRESSING INFORMATION & GENERAL INFORMATION (see later diagram)

1. The BioPatch Disk is a “hydrophilic absorptive foam dressing impregnated with Chlorhexidine Gluconate (CHG). The foam material can absorb up to eight times its own weight in fluid, while the CHG inhibits bacterial growth under the dressing.” Johnson & Johnson (2008)

2. Use of the Biopatch should be restricted to gestational age >26 weeks and postnatal age >7days, as there is a risk of hypersensitivity reactions and necrosis of the skin. Do not use BioPatch on patients with a known sensitivity to Chlorhexidine Gluconate. Adverse reactions to Chlorhexidine Gluconate such as dermatitis, hypersensitivity and generalized allergic reactions are very rare, but if any such reactions occur, discontinue use of the BioPatch immediately.
3. If any of the following occurs;
   a. Redness / tracking / swelling above the exit site
   b. Bleeding
   c. Pyrexia
   d. Pain / tenderness that cannot be explained as post-op pain.
   e. Soiled / peeling or dislodged dressing.
   f. Line blockage within the first 3 weeks post insertion.

   the dressing should be reviewed by a surgeon, microbiology and / or clinicians as appropriate, and swabs taken. Consider following the Unit protocol for suspected sepsis.

4. “IV3000 is a moisture responsive, transparent film dressing, specifically designed to meet the needs of catheter fixation.” It is permeable to water vapour from the skin but impermeable to water and microorganisms from outside. The preferred dressing from the range for CVL dressings is IV3000 “1 Hand Application - with strips and label” Ported or non-ported. Smith & Nephew order codes 4007/8/9. NHS No. ELW 032.

   Alternative dressings used must be transparent and sterile.

5. The BioPatch & IV3000 dressing is changed every 7 days (or more frequently in highly exudative wound – nursing staff will speak to surgeons for review if more frequent dressing needed).

DRESSING PROCEDURE FOR 1ST THREE WEEKS POST INSERTION

6. The infant undergoing a central venous catheter insertion returns from the operating theatre with a BioPatch Disk around the catheter (Blue side up) with an IV3000 Standard Moisture Responsive Catheter Dressing (10cm x 12cm) immediately over the exit site and line looped in a “Lazy S” shape. There will be a further 2cm x 5cm strip of mefix attached to each limb of the line. Looping the line and securing each lumen reduces pull on the exit site if the hub end of the line is pulled.

   Central Venous Catheter
   Theatre Dressing
   BioPatch Disk – blue side up
   IV3000 “1 Hand Application – ported or non-ported” 10cm x 12 cm Moisture Responsive Catheter Dressing applied over BioPatch & Loop Catheter

   The catheter sits immediately over the slit in the BioPatch Disk to ensure easy removal during dressing changes. Edges of the slit should touch.

   CVC Exit site

   Change 01.01.09

   Date dressing due change
   Identified on dressing

Adapted by B. Reda Dec. 2010
7. The date of the next dressing change is identified on the dressing using a narrow permanent marker pen. The date is prepared on the dressing by nursing staff during the preparation for the procedure stage. Using Aseptic Non-Touch Technique the nurse will reapply alcohol gel to the hands after touching the pen. The dated dressing with the sterile backing intact can remain sitting in the clean tray or in its outer packaging on a clean surface until needed.

8. This BioPatch / IV 3000 dressings is changed weekly for 3 weeks exactly as shown in the diagram above to allow tissue growth around the line and begin to achieve fixation.

9. A senior nurse with experience of changing central line dressings undertakes dressing changes required in the first 3 weeks.

10. Prior to dressing change, all persons involved including parents / carers present wash hands and apply alcohol gel.

11. The nurse gathers and prepares the equipment needed to remove and reapply the dressing (as per diagram) using aseptic non-touch technique. Consider need for microbiology swab.

12. Nurse(s) and patient / carer are comfortable and sitting in suitable secure position for the dressing change. Two nurses or a nurse & HCA undertake dressing changes to ensure the infant is safely restrained during dressing change, preventing the line being pulled.

13. The dressing change should be undertaken in an appropriate treatment area using normal aseptic non-touch technique principles. Limited personnel traffic, no domestic cleaning or curtain movement in the area for 10 minutes prior to procedure, fans off, clean working area (washed with water and detergent, dried & followed by 70% alcohol), non-sterile gloves and non-touch of key parts.

14. The nurse re-applies alcohol hand rub and puts on non-sterile gloves.

15. The nurse removes the old dressing holding the line secure onto the infants's chest, while the assisting nurse / HCA keeps the infant still. The IV3000 dressing is removed by loosening a corner or edge of the film and stretching the dressing parallel to the patient’s skin, **while holding the catheter in place**. (Two practitioners may be required to ensure the infant is immobile and the catheter is held in place.) The dressing is repeatedly stretched and peeled back until removed. The BioPatch will come away with the IV3000 film without dislodging the catheter providing the BioPatch was placed with the slit underneath the catheter.

16. The exit site may be swabbed and, if necessary because of blood or serous fluid oozing, cleaned with saline soaked gauze using a single wipe per gauze swab. The area is dried with dry gauze – single wipe per swab.

17. The area is wiped with a UHS Chlorotip Swab (0.5%CHG and 70% Alcohol) prior to re-applying a new BioPatch and IV3000 dressing. Avoid broken skin immediately around the catheter in the early weeks after insertion. The 2 sterile securing strips are used under the IV3000 dressing to secure the loop into position. The label for recording the date of when the dressing is due to be changed is applied on top of the IV3000 dressing (see diagram)
18. Cavilon can be applied to skin which is fragile, prior to applying the IV3000 dressing, but should not be placed under the BioPatch as this may reduce the effect of the CHG being released from the patch. Cavilon will act as a protective barrier on fragile skin, will help the IV3000 to adhere and will make removal of the dressing more comfortable for the patient.

19. Each lumen is further secured with Mefix strips, - 1 to the base of the IV3000 dressing and 1 strip to each lumen of the catheter. **Skin fix patches are not suitable in the first 3 weeks after line insertion as the line / lumens can slip through the dressing.**

20. The nurse clears away equipment, removes gloves and re-washes hands at the end of the procedure.

21. The patient is checked and re-positioned in line with developmental guidelines.

22. The nurse documents the dressing change and any relevant findings in the patient case notes, and reports any untoward findings to the patient’s medical team, e.g. signs of infection.

23. The theatre dressing is replaced exactly as described above each week for the first 3 weeks, i.e. 2 dressing changes post theatre, before a CVC maintenance dressing is used (described below).

**PROCEDURE FOR DRESSINGS FROM WEEK 3 TO WEEK 12 POST INSERTION**

(Maintenance dressing)

Three weeks post CVC insertion the theatre style dressing is removed and a suitable dressing applied as per the EPIC guidelines for a further 9 weeks (i.e. up to 12 weeks post insertion). Parents / carers are taught how to do these dressings at home using good hand hygiene and ANTT if they wish to learn. They are also taught what signs and symptoms to report, and how and when to report.

24. Ideally the patient continues with weekly IV3000 dressings without the BioPatch Disk. A variety of IV3000 products are available for this stage of dressing to suit size of patient and preference. Dressing changes include cleaning any physical dirt with gauze soaked with saline, drying with gauze and a UHS Chlorotip wipe prior to reapplying the IV3000.

25. Patients who cannot tolerate IV300 can use Mepore which should be changed daily to enable the exit site to be viewed (as the Mepore is not transparent).

26. Patients with severe fragile skin problems can use Mepilex Border dressings which should also be lifted daily to view the exit site.
27. These second phase dressings should continue looping and securing the line with tape or skin fix patch.

![Diagram of CVC exit site with dressing details]

**AFTER 12 WEEKS**

28. After 12 weeks post CVC insertion, the exit site does not need to be dressed if it is dry and healed.

29. Infants should have a daily bath and let the clean water clean the exit site. Do not immerse the line under water.

**AUDIT**

- All lines that fall out should be reported to the Vascular Access Service, to monitor incidence of CVC fall–out. Tel. Mr. Arul’s Secretary, 0121 333 8084
- All infected Exit Sites will be reported to Dr Jim Gray –microbiologist, to monitor incidence of CVC exit site infections & recorded in case notes.

**Heplocking a central venous catheter which is not in use.**

For a Neonatal 4.2 Fr catheter, 0.3 mls heparin 100units/ml, should be prescribed as a “lock” (not as a “flush”) and administered once a week. The catheter should be clamped immediately following the administration of heparin. Once the catheter has been heplocked, the lumen must be aspirated until blood is withdrawn before it can be used. The aspirated solution must be discarded.

**2.7 Fr lines should have a continuous infusion of fluid (PN or normal saline) at a minimum rate of 2ml/hr**
RELATED BCH, NHS, DOH, NMC, RCN & GMC POLICIES AND PRODUCT GUIDANCE AND ADDITIONAL READING


Birmingham Children’s Hospital NHS Foundation Trust (2005) Extravasation Policy


Birmingham Children’s Hospital NHS Foundation Trust (2008) Intravenous Policy


3M Cavilon No Sting Barrier Film http://solutions.3m.co.uk/wps/portal/3M/en_GB/Cavilon/skin-care/products/no-sting-barrier-film/


Mepilex Border Dressings http://www.molnlycke.co.uk/Files/Wound_Care/Productsheets/Mepilex%20border.pdf


Johnson & Johnson. The Dos and DON’Ts of BIOPATCH Dressing Aplication. www.biopatch.co.uk


Smith & Nephew (2008) IV3000 Product Range & Instructions for use http://wound.smith-nephew.com/za/node.asp?Nodeid=3627 <Accessed 16/12/08> Select “Product Range” Tab to view general information and “Instructions for use” Tab to view product sizes and guidance on how to apply. Videos for applying and removing are also available.


Adapted by B. Reda Dec. 2010