**GUIDELINES ON CARE BUNDLES IN OLCHC**
*(Including Peripheral Venous Catheter, Peripherally Inserted Central Catheter, Central Venous Catheter, Permcath, Vascath, Urinary Catheter, and catheters used for peritoneal dialysis)*

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<td>Title: Divisional Nurse Manager</td>
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<td>Title: Deputy Director of Nursing,</td>
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## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Introduction and definition</td>
<td>3</td>
</tr>
<tr>
<td>2.0</td>
<td>Bundles</td>
<td>3</td>
</tr>
<tr>
<td>3.0</td>
<td>Bundle steps</td>
<td>3</td>
</tr>
<tr>
<td>4.0</td>
<td>Process for Care bundle for PVC, PICC, CVC, Permcat/Vascath</td>
<td>4</td>
</tr>
<tr>
<td>5.0</td>
<td>Process for care bundle for Urinary Catheter</td>
<td>4</td>
</tr>
<tr>
<td>6.0</td>
<td>Process for care bundle for Peritoneal Dialysis</td>
<td>5</td>
</tr>
<tr>
<td>6.0</td>
<td>Calculating the elements for all care bundles</td>
<td>5</td>
</tr>
<tr>
<td>7.0</td>
<td>References</td>
<td>6</td>
</tr>
</tbody>
</table>

### Appendices

1. Peripheral Venous Catheter care bundle 7
2. Peripherally Inserted Central Catheter care bundle 8
3. Central Venous Catheter care bundle 9
4. Permcat/Vascath care bundle 10
5. Urinary Catheter care bundle 11
6. Peritoneal Dialysis care bundle 12
1.0 **Introduction and definition**

Care bundles were designed by the Institute for Healthcare Improvement in 2001 in a joint initiative with the Voluntary Hospital Association involving 13 hospitals. The goal of the initiative was to identify and improve care processes to the highest levels of reliability which would result in improved patient outcomes.

Care bundles are defined by the Institute for Health Improvement (2012) as ‘a small set of evidence-based interventions for a defined patient segment/population and care setting that, when implemented together will result in significantly better patient outcomes than when implemented individually’. Care bundles do not represent the comprehensive care required of a process, their purpose is to test a theory ‘when compliance is measured for a core set of accepted elements of care for a clinical process, the necessary teamwork and cooperation required will result in high levels of sustained performance and improved outcomes’. (IHI, 2012)

The Quality and Outcomes Framework (2012) suggests that ‘the use of care bundles as a ‘composite’ measure of care delivery can highlight areas for further improvement. They suggest as a quality tool, the care bundle concept is ‘the most systematic method of monitoring and improving the reliability and quality of healthcare’.

A care bundle is defined as a collection of interventions that may be applied to the management of a particular set of procedures such as the insertion, care and management of venous access devices. (HPSC, 2008)

The care bundle aims to merge best practice and evidence in the management of these devices using a simple set of steps. These steps must be followed by all staff for each patient with a mechanical device in place.

The steps involved have been deemed necessary, have been agreed based on best available evidence and must occur in a specified time period and place and monitored on a daily basis.

2.0 **Bundles**

I. Peripheral Venous Catheter
II. Peripherally Inserted Central Catheters
III. Central Venous Catheters
IV. Permcath & Vascath
V. Urinary Catheters
VI. Peritoneal Dialysis

3.0 **Bundle steps for all venous or central catheters**

1. Assess the need for the central or peripheral line on each shift.
2. Hand hygiene is performed before and after access procedures
3. Appropriate ANTT level is used, see OLCHC ANTT Reference Guide (2013)
4. CVC/PICC site is checked and graded according to appearance, normal appearance is a tick for yes,
everything else is no and an x.

5. Dressing is replaced every 7 days or more if required using suggested transparent breathable dressing. Care is detailed in the careplan in the HCR.

6. Disinfection solution is Chlorhexidine gluconate 2% / 70% isopropyl alcohol solution >2 months. Chlorhexidine 0.5% in Aqueous Solution i.e. Sterexidine 200 ® <2 months as per OLCHC Guideline on Skin Cleansing (2012).

7. Needlefree device is changed every 7 days and documented in the careplan in the HCR as recommended by the manufacturer.

8. Disinfection solution used to clean mechanical hubs is as recommended by OLCHC guideline (2012) before and after each access. (allow to dry for at least 40 seconds or until visibly dry).

4.0 Process for PVC/CVC/PICC/Permcath/Vascath bundle. Use in conjunction with Careplan 9, 9a

Care Bundles Recording Tool-Each shift- see copy Appendix 1, 2, 3, 4.

- The most suitable site is chosen for line insertion.
- The most suitable site is chosen for insertion by the clinician as per OLCHC, CVAD Guidelines for Clinicians, 2013 & OLCHC Intravenous Cannulation Guidelines (2013). In the case of a PVC surveillance will only occur on peripheral lines which have caused infiltration or extravasation injury to the child.
- Hand hygiene before and after all line interventions (OLCHC, 2010).
- OLCHC guide to Skin cleansing is followed unless allergy to chlorhexidine is suspected,
  1. Chlorhexidine gluconate 2% / 70% isopropyl alcohol solution >2 months.
  2. Chlorhexidine 0.5% in Aqueous Solution i.e. Sterexidine 200 ® <2 months
- Once inserted the line is xrayed in theatre for correct position if required as per OLCHC CVAD Guidelines for Clinicians.
- Lines are flushed and heparinised as prescribed.
- Appropriate transparent dressing is applied once skin is cleaned and dried.
- Care Bundle recording tool will be completed by the staff member caring for the infant/child on a per shift basis.
- This requires self declaration by staff.
- To have 100% compliance all fields must answer a yes.
- This document includes the date, time and line day (that is the numbers of days the line is in situ).
- Indicate the date of insertion in the field required on document 1.
- All fields in this document must be completed.
- Once the staff member caring for the child has completed the care bundle his/her initials and NMBI number must be detailed.
- Document 1 Care Bundles Recording tool must be used until the CVC is removed.
- When the CVC is removed the date of removal must be inserted into the required field. Discontinue the document in the usual way; a line is drawn through the document with the initials and date, the document can then be filed in the HCR.

5.0 Process for Urinary Catheter Care Bundle. Use in conjunction with Careplan 29 Urology
• Consider the need for the urinary catheter and discuss with team as appropriate
• Remove urinary catheter as soon as possible to reduce the risk of infection.
• Hand hygiene before and after all catheter interventions.
• Use appropriate ANTT level.
• Use appropriate sterile/non sterile gloves as per OLCHC Urinary Catheter Guidelines (2013).
• Perform all care as required, meatal, catheter care, drainage bag care as per OLCHC guidelines on Urinary Catheter Care (2013).
• Record intake and output as required.

6.0 Process for Peritoneal Dialysis Care Bundle

• The need for the Catheter is determined by the consultant
• Decontaminate hands to the appropriate ANTT level as for all other bundles and supported by the Renal guidelines.
• Exit site score as per point 4.
• Exit site dressing as per point 5
• All site cleansing is using 0.9% Sodium Chloride as per renal guidelines.
• All device caps can be cleaned with alcohol.

7.0 Calculating the elements of compliance for all care bundles

Examples

There are 8 basic elements (with the exception of the Urinary catheter bundle which has seven-14.2%) each element equates to 12.5% (rounded accordingly)

<table>
<thead>
<tr>
<th>Elements of the Bundle not passed</th>
<th>% Compliant</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>88%</td>
</tr>
<tr>
<td>2</td>
<td>75%</td>
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<tr>
<td>3</td>
<td>63%</td>
</tr>
<tr>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>5</td>
<td>38%</td>
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<tr>
<td>6</td>
<td>25%</td>
</tr>
<tr>
<td>7</td>
<td>13%</td>
</tr>
<tr>
<td>8</td>
<td>0%</td>
</tr>
</tbody>
</table>

Document 2. CVC Care Bundle Surveillance- for laboratory use

• The senior nurse/CNM will carry out a review of all children with a CVC on a daily basis.
• The date and bed number are detailed.
• All fields detailed on the surveillance sheet must be completed.
• A yes to all fields in document 1 indicates 100% compliance.
• The surveillance record is returned to the surveillance scientist.
• Any areas of non compliance must be managed locally with staff, CNMs and ADNs as required. An action plan can be managed locally to address any concerns.

• A field will be created in the documentation audit to capture the care bundle as a completed care process.

7.0 References


OLCHC (2013) Intravenous Cannulation Guidelines for Clinical staff, OLCHC, Dublin, Ireland.


OLCHC (2012) Careplan 9, 9a, 9b Care of a Child with a Central or Venous Access Device in situ, OLCHC


One document can be used for up to three PVCs. Details of line insertion dates on the IV Pink sheet.

### Appendix 1. Care Bundles Recording Tool - Each shift

<table>
<thead>
<tr>
<th>Date</th>
<th>Line 1</th>
<th>Line 2</th>
<th>Line 3</th>
<th>Line 1</th>
<th>Line 2</th>
<th>Line 3</th>
<th>Line 1</th>
<th>Line 2</th>
<th>Line 3</th>
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<th>Line 1</th>
<th>Line 2</th>
<th>Line 3</th>
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<td>2.</td>
<td>3.</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
<td>1.</td>
<td>2.</td>
<td>3.</td>
</tr>
</tbody>
</table>

1. **Assess the need for PVC on each shift**
   - Please tick

2. **Hand hygiene is performed before and after all line maintenance/access procedures. Appropriate ANTT Level is used.**
   - Please tick

3. **Check cannula is secure and site clean. Dressing change if required**
   - Please tick

4. **Check site for infiltration, infection or dislodgement**
   - **Consider the following when observing the PVC site**
     - Normal appearance
     - Redness
     - Redness, tenderness
     - Redness, tenderness and discharge
     - Other (temperature, bleeding)
   - Please tick if site normal or X if not

5. **Ensure patency of the PVC is maintained by flushing with NACL or continuous infusion**
   - Please tick

6. **Consider re-site after 72 hours**
   - Please tick

7. **Alcohol hub decontamination is performed before and after each hub access. (Use OLCHC approved disinfection wipe)**
   - Please tick

8. **There is no obvious constriction above the PVC site**
   - Please tick

**Initials**

**NMBI PIN**

**Notes:**
- At the beginning of each shift complete the care bundle above.
- Under ‘Assess the need for CVC’ if line not in use always place an x in the box and acknowledge the reason on the surveillance sheet.
- If non compliant with bundle re-evaluation may be required following nursing care.
- Use a ✓ in the boxes provided for a yes and X for no

**Patient Name: ..........................................................**

**HCR no: ...............................................................**

**Ward: .................................................................**
## Appendix 2. Care Bundles Recording Tool - Each shift

**Peripherally Inserted Central Catheter**

*Use in conjunction with OLCHC (2013) Guidelines for Clinical Staff on Central Venous Access Devices & Careplan 9, 9a, 9b*  
Tick ✓ each element of care bundle. To be 100% compliant all boxes must be ticked.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Line</th>
<th>Day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Date PICC Inserted:** ____ / ____ / 20___  
**Date PICC Removed:** ____ / ____ / 20___

**Reason for line removal:**

1. **Assess the need for PICC on each shift**
   - [ ] if TPN in progress? whether Enteral feeding/medications can commence  
   - [ ] Can oral medications be commenced

2. **Hand hygiene is performed before and after all line maintenance/access procedures.**

3. **Appropriate ANTT Level is used**
   - ANTT Level 2: accessing if 'breaking' the line
   - ANTT Level 3: accessing via a needle free device

4. **PICC site intact**
   - Please tick if site normal or X if not
   - Consider the following when observing the PICC site
     - Normal appearance
     - Redness
     - Redness, tenderness
     - Redness, tenderness and discharge
     - Other (temperature, bleeding)

5. **Dressing replaced within 7 days or more often if required**
   - (sterile transparent semi permeable dressing Veni-gard®/IV 3000). Change every 7 days

6. **Disinfection solution is used to clean the insertion site during dressing changes.**
   - (< 2 months corrected gestational age 0.5% Chlorohexidine in aqueous solution or older 2% Chlorohexidine in 70% alcohol)

7. **Change needle free device weekly**
   - (Check date when needlefree change is due)

8. **Alcohol hub decontamination is performed before and after each hub access. (Use OLCHC approved disinfection wipe)**

**Initials**

**NMBI PIN**

- At the beginning of each shift complete the care bundle above.
- [ ] Under ‘Assess the need for PICC’ if line not in use always place an x in the box and acknowledge the reason on the surveillance sheet
- If non compliant with bundle re-evaluation may be required following nursing care.
- Use ✓ in the boxes provided for a yes. An X for no

**Patient Name:.................................................................**  
**HCR no.................................................................**  
**Ward .................................................................**
## Appendix 3 Care Bundles Recording Tool-Each shift

**Central Venous Catheter**

Use in conjunction with OLCHC (2013) Guidelines for Clinical Staff on Central Venous Access Devices & Careplan 9, 9a, 9b

Tick ✓ each element of care bundle. To be 100% compliant all boxes must be ticked.

<table>
<thead>
<tr>
<th>Date CVC Inserted: ____ / ____ / 20____</th>
<th>Date CVC Removed: ____ / ____ / 20____</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date CVC Removed: ____ / ____ / 20____</td>
<td>Reason for line removal:</td>
</tr>
</tbody>
</table>

### 1. Assess the need for CVC on each shift
- ✓ if TPN in progress? whether Enteral feeding/medications can commence
  - Can oral medications be commenced

### 2. Hand hygiene is performed before and after all line maintenance/access procedures.

### 3. Appropriate ANTT Level is used
  - ANTT Level 2: accessing if 'breaking' the line
  - ANTT Level 3: accessing via a needle free device

### 4. CVC site intact
  - Consider the following when observing the CVC site
    - a. Normal appearance
    - b. Redness
    - c. Redness, tenderness
    - d. Redness, tenderness & discharge
    - e. Other (temperature, bleeding)

### 5. Dressing replaced within 7 days or more often if required
  - (sterile transparent semi permeable dressing Veni-gard®/IV 3000). Change every 7 days

### 6. Disinfection solution is used to clean the insertion site during dressing changes.
  - (< 2 months corrected gestational age 0.5% Chlorohexidine in aqueous solution or older 2% Chlorohexidine in 70% alcohol)

### 7. Change needle free device weekly
  - (Check date when needlefree change is due)

### 8. Alcohol hub decontamination is performed before and after each hub access.
  - (Use OLCHC approved disinfection wipe)

---

- At the beginning of each shift complete the care bundle above.
- ✓Under ‘Assess the need for CVC’ if line not in use always place an x in the box and acknowledge the reason on the surveillance sheet.
- If non compliant with bundle re-evaluation may be required following nursing care.
- Use a ✓ in the boxes provided for a yes. An X for no

**Patient Name…………………………………………………………………..**
**HCR no………………………………………………………………….**
**Ward …………………………………………………………………….**
Appendix 4. Care Bundles Recording Tool-Each shift

PERMCATH/VASCATH Catheter

Use in conjunction with OLCHC (2013) Guidelines for Clinical Staff on Central Venous Access Devices & Careplan 9, 9a, 9b

Tick ✓ each element of care bundle. To be 100% compliant all boxes must be ticked.

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<thead>
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<td>Day</td>
</tr>
<tr>
<td>Date LINE Removed: ____ / ____ / 20____</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reason for line removal:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Assess the need for LINE on each shift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>if TPN in progress? whether Enteral feeding/medications can commence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can oral medications be commenced</td>
<td>Please tick</td>
<td></td>
</tr>
<tr>
<td>2. Hand hygiene is performed before and after all line</td>
<td></td>
<td></td>
</tr>
<tr>
<td>maintenance/access procedures.</td>
<td>Please tick</td>
<td></td>
</tr>
<tr>
<td>3. Appropriate ANTT Level is used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANTT Level 2: accessing if ‘breaking’ the line</td>
<td>Please tick</td>
<td></td>
</tr>
<tr>
<td>ANTT Level 3: accessing via a needle free device</td>
<td></td>
<td></td>
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<tr>
<td>4. LINE site intact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please tick if site normal or X if not</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider the following when observing the LINE site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Normal appearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Redness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Redness, tenderness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Redness, tenderness and discharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Other (temperature, bleeding)</td>
<td></td>
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<tr>
<td>5. Dressing replaced within 7 days or more often if required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(sterile transparent semi permeable dressing Veni-gard®/IV 3000). Change every 7 days)</td>
<td>Please tick</td>
<td></td>
</tr>
<tr>
<td>6. Disinfection solution is used to clean the insertion site</td>
<td></td>
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<tr>
<td>during dressing changes. (&lt; 2 months corrected gestational age 0.5% Chlorohexidine in aqueous solution or older 2% Chlorohexidine in 70% alcohol)</td>
<td>Please tick</td>
<td></td>
</tr>
<tr>
<td>7. Change needle free device weekly (Check date when needlefree change is due)</td>
<td>Please tick</td>
<td></td>
</tr>
<tr>
<td>8. Alcohol hub decontamination is performed before and after each hub access.(Use OLCHC approved disinfection wipe)</td>
<td>Please tick</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Initials</td>
<td>NMBI PIN</td>
</tr>
</tbody>
</table>

- At the beginning of each shift complete the care bundle above.
- If non compliant with bundle re-evaluation may be required following nursing care.
- Use a ✓ in the boxes provided for a yes. An X for no

Patient Name:……………………………………………………………
HCR no:………………………………………………………………… Ward:…………………………………………………………
Appendix 5. Urinary Catheter. Care Bundles Recording Tool-Each shift

**Urinary Catheter (UC) Care Bundle**

Use in conjunction with OLCHC (2012) Urinary Catheter care Guidelines & Careplan 29

Tick ✓ each element of care bundle. To be 100% compliant all boxes must be ticked.

Indwelling urinary catheters give rise to urinary tract infection. The decision to insert and remove a Urinary Catheter is a medical/surgical decision.

<table>
<thead>
<tr>
<th>Date UC Inserted:</th>
<th></th>
<th>Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date UC Removed:</td>
<td></td>
<td>Day</td>
</tr>
<tr>
<td>Reason for UC removal:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Assess the need for UC on each shift  
   - Discuss catheter removal with team  
   Please tick

2. Hand hygiene is performed before and after all maintenance/access procedures.  
   Please tick

3. Appropriate ANTT Level is used. Gloves should be worn by staff members accessing the urinary system.  
   Please tick

4. UC is continuously connected to a drainage system which is changed as per OLCHC guidelines (2012)  
   Please tick

5. Meatal care is performed as required as per OLCHC guidelines  
   Please tick

6. The drainage bag is situated below the level of the bladder and the tap not in contact with any other surface.  
   Please tick

7. The drainage bag is emptied and volume recorded as ordered.  
   Please tick

---

- At the beginning of each shift complete the care bundle above.
- If non compliant with bundle re-evaluation may be required following nursing care.
- Use ✓ in the boxes provided for a yes. An X for no

Patient Name: .................................................................

HCR no: .................................................................

Ward: .................................................................
Appendix 6. Peritoneal Dialysis care bundle recording tool

**Peritoneal Dialysis Catheter**

Use in conjunction with OLCHC (2015) Guidelines for Nursing staff on Peritoneal Dialysis

Tick ✓ each element of care bundle. To be 100% compliant all boxes must be ticked.

<table>
<thead>
<tr>
<th>Date Inserted: ___ / ___ / 20___</th>
</tr>
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<tbody>
<tr>
<td>Date:</td>
</tr>
<tr>
<td>Time:</td>
</tr>
</tbody>
</table>

1. Tenckhoff catheter in use

2. Hand hygiene is performed before and after all maintenance/access procedures.

3. Appropriate ANTT Level is used

   ANTT Level 2: accessing if 'breaking' the line for dialysis
   ANTT Level 3: for cleaning external transfer set or reinforcing transfer set tubing

4. Exit site intact

   Consider the following when observing the exit site
   - Normal appearance
   - Presence of exit site suture
   - Redness
   - Swelling
   - Crust
   - Pain
   - Discharge drainage

5. Exit site Dressing
   a) New catheter change dressing every 7 days
   b) Established catheter every 2nd day

6. Sodium chloride 0.9% to clean exit site during dressing changes.

7. Alcohol hub decontamination is performed before and after each hub access. (Use OLCHC approved disinfection wipe)

---

**Care Bundles Recording Tool-Each shift**

- At the beginning of each shift complete the care bundle above.
- If non-compliant with bundle re-evaluation may be required following nursing care. Use a ✓ in the boxes provided for a yes. An X for no

Patient Name: .................................................................

HCR no: .................................................................

Ward: .................................................................
All peripheral lines will not be subject to the same analysis as the lines used for central access. If required lines will be sent to the laboratory for analysis.