

GUIDELIN	E ON CARE BUNDLES IN OLCHC
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1.0 Introduction

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'

2.0 Bundles

- 1. Peripheral Venous Catheter
- 2. Peripherally Inserted Central Catheters
- 3. Central Venous Catheters
- 4. Permcath & Vascath
- 5. Urinary Catheters
- 6. Peritoneal Dialysis

The detail collected in the care bundle must reflect the impact on the child. If the catheter is in longer than is suggested this detail must be reflected in the results achieved. This means that the care bundle reflects that the standards are non-compliant because a clinical decision was made to leave a catheter in for longer than is recommended. This will show non-compliance but this acceptable as long as the rationale matches.

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 (2016)
- 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 >2months. 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.

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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 (2017). 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, 2016)
- OLCHC guide to Skin cleansing is followed unless allergy to chlorhexidine is suspected,
 - o Chlorhexidine gluconate 2% / 70% isopropyl alcohol solution >2months.
 - o Chlorhexidine 0.5% in Aqueous Solution i.e. Sterexidine 200 ® <2 months
- Once inserted the line is x-rayed 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).

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.

6.0 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)

Elements of the Bundle not passed	% Compliant
1	88%
2	75%
3	63%
4	50%
5	38%
6	25%
7	13%
8	0%

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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

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Health Protection Surveillance Centre, (2008) Peripheral Vascular Care Bundles, www.hpsc.ie

HIQA (2012) National Standards for the Prevention and Control of Healthcare associated infection. HIQA, Ireland Institute for Healthcare Improvement (2012) Using care Bundles to Improve Health Care Quality, IHI, Cambridge, UK. OLCHC (2010) Guidelines on Hand Hygiene. Our Lady's Children's' Hospital, Crumlin, Dublin

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Nursing and Midwifery Board of Ireland (2015) Scope of Nursing and Midwifery Practice Framework. NMBI: Dublin.

OLCHC (2015) Nursing Guidelines on Peritoneal Dialysis, OLCHC and TSCUH, Crumlin, Dublin 12.

OLCHC (2016) Aseptic Non Touch Technique a Reference Guide, OLCHC, Dublin Ireland.

OLCHC (2017) Careplan 29 Urology, Care of a child with a urinary catheter, OLCHC, Dublin.

OLCHC (2017) Careplan 9, 9a, 9b Care of a Child with a Central or Venous Access Device in situ, OLCHC

OLCHC (2017) CVAD- Guideline for Clinical Staff on the care of Central Venous Catheters/PICC/Implantable Ports/Hickman Broviacs / Permcaths, OLCHC, Dublin, Ireland.

OLCHC (2017) Intravenous Cannulation Guidelines for Clinical staff, OLCHC, Dublin, Ireland.

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NMBI (2016) – *Recording Clinical Practice*-A guide to Nurses and Midwives, NMBI, Dublin, Ireland Nurses & Midwives Act (2011)

Nursing & Midwifery Board of Ireland (2007) *Guidance to Nurses and Midwives on Medication Management*. Dublin: Nursing & Midwifery Board of Ireland.

Nursing & Midwifery Board of Ireland (2014) Code of Professional Conduct and Ethics for Registered Nurses and Registered Midwives. Dublin: Nursing & Midwifery Board of Ireland.

Nursing & Midwifery Board of Ireland (2015) Scope of Nursing and Midwifery Practice Framework. Dublin: Nursing & Midwifery Board of Ireland.

Royal College of Physicians in Ireland / Health Service Executive (2014) *Prevention of intravascular Catheter-related Infection in Ireland*. Dublin: HSE Health Protection Surveillance Centre.

Royal College of Physicians in Ireland / Health Service Executive (2015) Guidelines for hand hygiene in Ireland Healthcare settings: Update of 2005 guidelines. Dublin: HSE Health Protection Surveillance Centre.



Appendix 1 - Peripheral Venous Catheter - Care Bundles Recording Tool-Each shift

Please use this document in conjunction with Guidelines on Care bundles in OLCHC (2018), Careplan 9, CVAD Guidelines (2017), ANTT Guidance (2013), IV Cannulation Guidelines OLCHC (2016).

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

One document can be used to	Date	unee	7 7 00	3. De	lans c	n III IC	IIISCI	lion u	ales	OH UN	1 1 1	IIIN S	Heel																		
	Line	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Assess the need for PVC on each shift		•	_	,	•				_	-	•	_	3	ľ	_	3	•	_	3	•	_	9		_		•	_		•	_	3
Please tick																														<u> </u>	
Hand hygiene is performed before and a all line maintenance/access procedures. Appropriate ANTT Level is used. Please tick	ıfter																														
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 site Normal appearance	ne PVC																														
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 flushing with NACL or continuous infusion Please tick	d by																														
6. Consider resite after 72 hours Please tick																															
7. Alcohol hub decontamination is performable before and after each hub access. (Use OLCHC approved disinfection with Please tick																															
There is no obvious constriction above the site Please tick	ne PVC																														
	Initials																														
NI	MBI PIN																														

- At the beginning of each shift, complete the care bundle above.
- Lunder '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

bac a fill the boxes provided for a yes and X for he
Patient Name
HCR no
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Appendix 2 Care Bundles Recording Tool-Each shift

PERIPHERALLY INSE Use in conjunction with OLCHC (2013) Guidelines for Clinic Tick □ each element of care bundle. To be 100	cal Staff o	on Cent	tral Ven	ous A	cces		s & (Care	plar	n 9, 9	a, 9	b
	Date:											
	Time											
Date PICC Inserted: / / 20	Line											
Date PICC Removed:// 20 Reason for line removal:	Day											
1.Assess the need for PICC on each shift ☐ if TPN in progress ? whether Enteral feeding/medications can commence Can oral medications be commenced Please	tick											
2. Hand hygiene is performed before and after all line maintenance/access procedures. Please to	tick											
3. Appropriate ANTT Level is used Please t	tick											
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 is Consider the following when observing the PICC site Normal appearance Redness Redness Redness, tenderness Redness, tenderness and discharge Other (temperature, bleeding)	f not											
 Dressing replaced within 7 days or more often if required (Sterile transparent semi permeable dressing Veni-gard® / IV 3000). Change every 7 days) Please	e tick											
 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) Please	e tick											
4. Change needle free device weekly Please (Check date when needlefree change is due)	e tick											
5. Alcohol hub decontamination is performed before and after each hub access. (Use OLCHC approved disinfection wipe) Please												
Ini	itials											
NMB	I PIN	† †										

- At the beginning of each shift complete the care bundle above.
- X Under 'Assess the need for PICC' if line not in use <u>always place an x in the box</u> 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
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Ward

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Appendix 3 - Care Bundles Recording Tool - Each shift

CENTRAL Use in conjunction with OLCHC (2013) Guidelines for Tick ✓ each element of care bundle	Clinical St	taff on Cer	tral Ven	ous Ac			an 9, 9	a, 9b		
	Date:									
	Time									
Date CVC Inserted:// 20	Line									
Date CVC Removed:// 20 Reason for line removal:	Day									
1.Assess the need for CVC on each shift * if TPN in progress ? whether Enteral feeding/medications can commence Can oral medications be commenced Please tick										
Hand hygiene is performed before and after all line maintenance/acces procedures. Please tick	S									
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 Please tick if site normal or X if not Consider the following when observing the CVC site a. Normal appearance b. Redness c. Redness, tendemess d. Redness, tendemess & discharge e. Other (temperature, bleeding)										
	7 ease tick									
Disinfection solution is used to clean the insertion site during dressing changes. (< 2 months corrected gestational age 0.5% Chlorohexidine in as solution or older 2% Chlorohexidine in 70% alcohol) Ple	queous ease tick									
7. Change needle free device weekly Please tick (Check date when needlefree change is due)										
Alcohol hub decontamination is performed before and after each hub access.(Use OLCHC approved disinfection wipe) Please tick										
	Initials									
NI	MBI PIN									

- At the beginning of each shift complete the care bundle above.
- X 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	 	
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Ward		

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Appendix 4 - Care Bundles Recording Tool-Each shift

PERMCAT Use in conjunction with OLCHC (2013) Guidelines f Tick ✓ each element of care bun	for Clinical S	aff on C	entral V	enous Ac		ıreplaı	า 9, 9a	ı, 9b		
	Date:									
	Time									
Date LINE Removed: // 20 Reason for line removal:	Line Day									
Assess the need for LINE on each shift if TPN in progress? whether Enteral feeding/medications can commence Can oral medications be commenced Please tice Hand hygiene is performed before and after all line	ck									
maintenance/access procedures. Please ti	ick									
3. Appropriate ANTT Level is used Please ti	ck									
ANTT Level 2: accessing if 'breaking' the line ANTT Level 3: accessing via a needle free device										
4. LINE site intact Please tick if site normal or X if not Consider the following when observing the LINE site a. Normal appearance b. Redness c. Redness, tenderness d. Redness, tenderness and discharge e. Other (temperature, bleeding)										
	e se tick									
	se tick									
7.Change needle free device weekly Please (Check date when needlefree change is due)										
8.Alcohol hub decontamination is performed before and after each hu access.(Use OLCHC approved disinfection wipe) Please tick	ıb									
In	nitials									
NME	BI PIN									

_	A 4 4 La a	L : :	af a a a la	~ - : -			مالم منتما	
•	At the	peainnina	or each	Smiii	complete the	ne care	nunaie	anove

- If non-compliant with bundle re-evaluation may be required following nursing care.
- Use a $\sqrt{}$ in the boxes provided for a yes. An X for no

Patient Name	
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Nard	



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. Date: Time Line Date UC Inserted: / 20 Day Date UC Removed: Reason for UC removal: 1.Assess the need for UC on each shift Discuss catheter removal with team Please tick Hand hygiene is performed before and after all maintenance/access procedures. Please tick Appropriate ANTT Level is used. Gloves should be worn by staff members accessing the urinary system. 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.

- At the beginning of each shift complete the care bundle above.
- If non-compliant with bundle re-evaluation may be required following nursing care.

Initials

NMBI PIN

• Use a $\sqrt{}$ in the boxes provided for a yes. An X for no

Please tick

Patient Name	-
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Vard	

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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 10	00% comp	liant a	ll box	es m	ust be	ticke	d.					
	Date:												
	Time												
Date Inserted:/ 20													
1. Tenckhoff catheter in use Please	e tick												
Hand hygiene is performed before and after all Maintenance / access procedures. Please	tick												
3. Appropriate ANTT Level is used Please	tick												
ANTT Level 2: accessing if 'breaking' the line for dialysis ANTT Level 3: for cleaning external transfer set or reinforcing tra set tubing	ansfer												
 4. Exit site intact Please tick if site normal or X Consider the following when observing the exit site Normal appearance Presence of exit site suture Redness Swelling Crust Pain Discharge drainage 	if not												
 5. Exit site Dressing a) New catheter change dressing every 7 days b) B) established catheter every 2nd day 	ise tick												
6. Sodium chloride 0.9% to clean exit site during dressing chan	ges. ase tick												
7. Alcohol hub decontamination is performed before and after e hub access.(Use OLCHC approved disinfection wipe) Plea	each se tick												
	Initials												
NM	BI PIN												
At the beginning of each shift complete If non-compliant with bundle re-evaluate boxes provided for a yes. An X for no Patient Name	the cation ma	are bunday be re	dle at quire	oove d fol				g ca	re. U	se a	□ in	the	
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

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