INTRODUCTION, IMPLEMENTATION AND AUDIT OF PERIPHERAL VENOUS CANNULA CARE BUNDLES IN CUH
What is a Care bundle?

- A “Care Bundle" is a group of evidence-based care components for a given disease/intervention that, when executed together, may result in better outcomes than if implemented individually.

- It is a means to ensure that the application of all interventions is consistent for all patients at all times.
Why introduce a Peripheral venous Cannula (PVC) care Bundle?

- Incidence of blood stream infections associated with use of IV lines 42% (Quality and Safety Directorate 2013).
- Quality and Safety Directorate
  - Suggests that up to 70% of line associated infection is preventable.
- Care bundles based on best practice have been proven to reduce risk of Health Care Associated Infections.
- Ensures that best practice is implemented in all wards consistently and if necessary, targets education to those areas with greatest need.
- Allows units to demonstrate that PVC care on their ward is in line with best practice.
Why introduce a PVC care Bundle?

- HIQA Infection Control Standards 2008
  Standard 8
  Device related infections are reduced or prevented
  - Criteria 8.1
    “the implementation of a structured set of processes that have been proven to improve outcomes, (e.g. bundles) for the prevention of invasive medical devices related infections”.

In 2015 HIQA focused on implementation of Care Bundles in their unannounced inspections.
CUH IV Services for Nursing conference  May 2016

CUHG PVC care bundle

1. All PVCs in situ must be required and in use.
2. Any PVC with signs of phlebitis/infiltration should not be in use.
3. All dressings must be clean dry and intact.
4. All PVCs in use should be in situ no longer than 96 hours.
5. Documentation should be in line with hospital policy.
6. Hand Hygiene must preformed be before and after all procedures with the PVC.
Implementation on a ward

- Link nurses who wish to get involved in the care bundle process are identified.
- Link nurse and CNM2 IV Services conduct baseline audit of current standard of care.
- Results of audit presented by link nurses to CNM and all clinical staff on the ward.
- Link nurse then informs all clinical staff involved in IV therapy of elements of care that are considered essential to deliver optimum care.
- When all staff informed re-audit.
- Audits performed monthly, results and recommendations for improvement are fed back to staff through notice boards and ward meetings etc.
Audit of compliance with the PVC care bundle

- All patients on the ward with a PVC in situ are assessed for compliance with the 6 elements of the care bundle using adapted HPSC care bundle audit tool.

- The PVC care bundle summary sheet is then completed and displayed on staff notice board. Results are discussed with CNM and ward staff.

Following assessment:

- The PVC will be removed if:
  - It is not required.
  - Phlebitis/infiltration is present.
  - It is in situ longer than 96 hours (it may remain in-situ if patient has poor access and there is no signs of phlebitis/infiltration).
<table>
<thead>
<tr>
<th>PVC in situ</th>
<th>PVC in Use</th>
<th>Phlebitis score</th>
<th>Dressing intact</th>
<th>PVC &lt; 96hrs hrs</th>
<th>Documentation complete?</th>
<th>Hand hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>Remove PVC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

CUH IV Services for Nursing conference  May 2016
# Phlebitis Score

<table>
<thead>
<tr>
<th>PVC in situ</th>
<th>PVC in Use</th>
<th>Phlebitis Score &lt;2</th>
<th>Dressing intact</th>
<th>PVC &lt; 96 hrs</th>
<th>Documentation complete?</th>
<th>Hand hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Yes</td>
<td>No</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Remove PVC*
Phlebitis Score Chart

- Insertion sites should be checked at least daily for signs of inflammation and document using VIP score

### V.I.P. Score (Visual Infusion Phlebitis Score)

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
</table>
| 0     | No signs of phlebitis  
        | **OBSERVE CANNULA** |
| 1     | Possible first signs of phlebitis  
        | **OBSERVE CANNULA** |
| 2     | Early stage of phlebitis  
        | **RESITE CANNULA** |
| 3     | Medium stage of phlebitis  
        | **RESITE CANNULA**  
        | **CONSIDER TREATMENT** |
| 4     | Advanced stage of phlebitis or start of thrombophlebitis  
        | **RESITE CANNULA**  
        | **CONSIDER TREATMENT** |
| 5     | Advanced stage of thrombophlebitis  
        | **INITIATE TREATMENT**  
        | **RESITE CANNULA** |

---

*Developed by Andrew Jackson, Consultant Nurse Intravenous Therapy and Care, Rotherham General Hospitals, NHS Trust.*
PVC dressing clean, dry and intact?

Pictures with permission from IV team Rotherham Trust
Hand Hygiene

Moment 2--before an aseptic procedure

- Hand hygiene before and after contact with PVC.
- Hand Hygiene before drawing up IV medications.
- Practice observed during preparation and administrating of IV medication/infusions to assess if hand hygiene preformed.
CUH Standard

- Target 100% for all PVC’s in all patients
- All 6 elements must be Yes to pass the bundle.
- Example 10 PVC’s in situ
  - 5 PVCs all yes
  - 1 PVC not in use.
  - 1 PVC dressing dirty and loose
  - 3 PVCs no documentation.
- 50% compliance is the ward score

CUH Policy conduct monthly audits however if compliance < 80% repeat audit in 2 weeks.
Implementation in CUH

- September 2011, PVC care bundle first introduced by CNM2 IV Services.
- May 2013 following HIQA visit, Care Bundle working group set up.
- January 2014 PVC monitoring chart updated to include the PVC care bundle, the Visual infusion Phlebitis score and extended dwell time.
- December 2014, Policy on the introduction, implementation and monitoring of PVC Care Bundles in CUHG finalised and available on QPULSE.
Results 2015

All clinical areas visited by IV Services.

- 13 Clinical areas achieved >80% compliance (of which 11 achieved 100%).
- 2 clinical area just started-baseline audit 7-38%.
- 4 clinical areas audits not conducted monthly, results range from 57%-77%.

Main issues, PVCs not in use, soiled/loose dressings and documentation.
New Guidelines not yet implemented.

- Routine removal not required - removal only when clinically indicated.

HOWEVER

- Twice daily assessment and documentation of PVC care required.

Therefore

- CUH policy and chart will have to be reviewed and updated.
Conclusion

- Audits have shown that the implementation of PVC care bundles has improved the management of PVCs in CUH and enhanced patient care.
- Feedback from some clinical areas is very positive many see it a worthwhile quality initiative.
- Feedback for other areas - difficult to get time to conduct audits.
- Maintaining the standard requires ongoing commitment and surveillance with compliance.
References


