High Impact Intervention
Urinary catheter care bundle

Aim
To reduce the incidence of urinary tract infections related to short term and long term indwelling urethral catheters.

Introduction
The aim of the care bundle, as set out in this high impact intervention (HII), is to ensure appropriate and high quality patient care. Regular auditing of the care bundle actions will support cycles of review and continuous improvement in care settings.

Registered providers must audit compliance against key policies and procedures for infection prevention, inline with the relevant legislation at the time of publication1.

Urinary tract infections are the second largest single group of healthcare-associated infections in the UK, amounting to 19.7% of all healthcare associated infectionsi.

The presence of a urinary catheter, and the duration of its insertion, are contributory factors to the development of a urinary tract infection. Some 60% of healthcare-associated urinary tract infections are related to catheter insertion2. The financial cost of urinary infection has been estimated at £1,122 per patient.3

The Department of Health commissioned the EPIC team at Thames Valley University to produce a set of guidelines for preventing healthcare-associated infection, which includes the insertion and management of short term indwelling urinary catheters in acute careii, community hospitals, ambulances and general practices.

Previously little attention had been paid to reduce the risk of service users receiving care of urinary catheters in their own.iii To reduce the risk to this group of patients, the HII draws upon the standards of care for indwelling catheters provided in the National Institute of Health and Clinical Excellence (NICE)iv. The risk elements form the basis of a method to reduce the occurrence of urinary tract infections related to indwelling urethral catheters, and the safety action points indicate how the risk elements should be carried out. They focus on preventing and controlling infection. However, because infection has a complex inter-relationship with encrustation and blockage, these aspects of catheter management are also addressed.

The Infection Control Nurses Association (now Infection Prevention Society) audit tool has a section on urinary cathetersv and NHS Quality Improvement Scotland has produced a catheter care guidelinevi.

Why use the care bundle?
This care bundle is based on EPIC5 guidelines, expert advice and other national infection prevention and control guidance. It should support implementation of local and national policy. The purpose is to act as a way of improving and measuring the implementation of key elements of care. The risk of infection reduces when all elements within the clinical process are performed or if not applicable comply with policy every time and for every patient. The risk of infection increases when one of more elements of a procedure are excluded or not performed.
Staff competence and training
In line with policy, staff should be appropriately trained and competent in any stated procedure or care process. Assessment of competence is not a specific care action within the HII as it is a pre-requisite for any care delivered. Registered care providers will have mechanisms for assuring training, assessment and recording of competence.

Elements of the care process
There are sets of actions outlined below as good practice; these are concerned with:
- a insertion
- b ongoing care

### Insertion Actions
1. **Procedure carried out using recognised Aseptic Non Touch Technique**
   - Gown, gloves and drapes (in line with local policy), used for the insertion of invasive devices.

2. **Personal protective equipment**
   - Disposable apron and gloves to be worn and disposed of following use and between patients.

3. **Catheter needed?**
   - Catheterisation follows an assessment of clinical need which includes considering alternative options.

4. **Clean the urethral meatus**
   - Prior to insertion of catheter.
   - With sterile normal saline or sterile water
     - use correct wiping technique (front to back)
     - use sterile single use lubricant.

5. **Sterile, closed drainage system**
   - Choice of urinary catheters based on individual patient assessment and local policy.
   - Correct size of catheter is selected, smallest size that will allow drainage.

6. **Hand hygiene**
   - Hands are decontaminated immediately before and after each episode of patient contact using the correct hand hygiene technique. *Use of the World Health Organisations ’5 moments of hand hygiene’ or the NPSA ’Clean you hands campaign’ is recommended.*

7. **Documentation**
   - Document Date, reason for insertion, catheter size, operator undertaking insertion and if insertion was high risk with signature.

### Ongoing care
1. **Hand hygiene**
   - Hands are decontaminated immediately before and after each episode of patient contact using the correct hand hygiene technique. *Use of the World Health Organisations ’5 moments of hand hygiene’ or the NPSA ’Clean you hands campaign’ is recommended.*

2. **Catheter hygiene**
   - Catheter site cleaned regularly as stated in local policy.
   - Catheter is emptied a minimum of twice daily into clean container.

3. **Sampling**
   - All samples obtained using aseptic technique, via the catheter sampling port.

4. **Drainage bag position**
   - Above floor but below bladder level to prevent reflux or contamination.
   - Closed urinary drainage system intact or only disconnected as per manufacturers instructions.

5. **Catheter manipulation**
   - Examination gloves worn to manipulate a catheter, manipulation should be preceded and followed by hand decontamination.

6. **Catheter needed?**
   - Review need for catheter daily
   - Document Date and time of removal of catheter, operator undertaking removal and with signature.
Using the care bundle and the electronic tool
The use of this care bundle will support cycles of review and continuous improvement, which will deliver appropriate and high quality patient care.

Audits of compliance to the care bundle should be carried out regularly and the results recorded at the point of care. They should be carried out by peers and the results can be collected manually or electronically depending on what is appropriate. The use of an electronic, graphical package such as the HII electronic tool provided is recommended, as this will increase the understanding and usefulness of the overall results.

The electronic tool will:
- Collect, collate and produce different views of the information.
- Clearly identify when actions within the care bundle have or have not been performed.
- Provides information to support the development of plans to resolve any issues and improve the quality of care.
- Supports a culture of continuous improvement.

Recording and making sense of the results
- Print an audit sheet from the HII electronic tool or alternatively create one such as the example below.
- When a care bundle action is performed, insert a Y in the relevant column. If the action is not performed insert an X in the relevant column.
- When the care action is not performed as it is not applicable (for example local policy has determined it as not applicable in all or certain situations) insert an N/A to demonstrate that local policy is being adhered to. (This is then recognised as a Y when total compliance is been calculated)
- Calculate the totals and compliance levels manually or enter the results into the HII electronic tool to calculate these for you.
- The goal is to perform every appropriate action of care every time it is needed and achieve 100% compliance with the care bundle. The “All actions performed” column should be filled with a Y when all the appropriate actions have been completed on every required occasion. See the example below.
- Where actions have not been performed overall compliance will be less than 100%. This provides immediate feedback for users of the tool on those care bundle actions not completed, and action can then be taken to improve compliance levels.
### Example

<table>
<thead>
<tr>
<th>Observation</th>
<th>Care action1</th>
<th>Care action 2</th>
<th>Care action 3</th>
<th>Care action 4</th>
<th>All actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>2</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>3</td>
<td>Y</td>
<td>Y</td>
<td>N/A</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>4</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>5</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

**Total number of times an individual action was compliant**

<table>
<thead>
<tr>
<th>Action</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

**% when action of care was given**

<table>
<thead>
<tr>
<th>Action</th>
<th>100%</th>
<th>80%</th>
<th>80%</th>
<th>80%</th>
<th>80%</th>
</tr>
</thead>
</table>

- This example tool shows that while most care actions were performed, on only two occasions were ALL actions performed correctly while all actions was only 40% and as a result the risk of infection was significantly increased. (Please note for observation no 3. the N/A was calculated as a Y and overall compliance was achieved)
- When the information has been entered into the HII electronic tool a compliance graph for each action of care and for overall compliance to the care bundle can be produced. This will show where to focus the improvement efforts to achieve full compliance and achieve high quality patient care.
Best practice guides
EPIC guidelines for urinary catheter management⁶
The ICNA audit tool section on managing urethral catheters⁶
NHS Quality Improvement Scotland urinary catheterisation and catheter care guidelines⁷

Recommended resources
Many guidelines and papers are available in the National Resource for Infection Control at www.nric.org.uk
The NHS infection control e-learning package is available at www.infectioncontrol.nhs.uk

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² HIS & ICNA 2006