Indwelling Urinary Catheter Daily Checklist

To Reduce Device Utilization and Catheter Associated Urinary Tract Infections

Holly Kolstad DNP, RN-BC, ONC
CAUTI Background

- Causes preventable morbidity and mortality (Jatta et al., 2020)
- Increases healthcare costs at local, national, and global levels (Jatta et al., 2020)
- Estimates the cost is about 400 million annually (AHRQ, 2015)
- Increases the length of stay by two to four days (AHRQ, 2015)
- Estimated 13,000 deaths a year are associated with urinary tract infections (Fletcher-Gutowski and Cecil, 2019)
Local Problem

- Increase in device utilization from 0.2 in August 2021 to 0.85 in October 2021, reaching a high of 0.9
- Pandemic increased acuity and device utilization
- Sicker patients results in more indwelling catheters
- The increased acuity increased the risk of health care acquired infections such as CAUTI
- Highlighted the need to increase prevention measures.
Objective & PICOT

- Project Aim: To improve the quality of care by reducing Foley device utilization rates and CAUTI rates with a daily checklist prevention bundle (ABCDE)
PICOT

- For patients admitted to the ICU, how does implementation of a Bundle (ABCDE) Checklist for CAUTI, compared to current practice, impact CAUTI and device utilization rates over 8-10 weeks?

- **P:** ICU patients
- **I:** ABCDE Bundle checklist
- **C:** No checklist
- **O:** Improve CAUTI and device utilization rates
- **T:** 8-10 weeks
Setting & Sample

- Newark Hospital ICU
- Rural Hospital
- 67 patients
- 192 checklists completed by 3 unit champions
- 8 weeks of implementation
- Adult patients
Inclusion & Exclusion

- Inclusion Criteria: Have an indwelling catheter or order for one, admitted to ICU

- Exclusion Criteria: Hospice, patients on medical floors, patient admitted with CAUTI or chronic catheters
Literature Review

- Themes: Intervention Compliance, improved metrics, Champions, and checklists
  - 28% reduction in CAUTI in study completed by Gabriel & Hobbs (2019)
  - 48% reduction with use of checklist in study completed by Jatta et al. (2020)
  - Decreases length of stay by 4 days when CAUTI is reduced
  - Champions increase adherence with interventions
  - Continued use of champions, checklist, and sharing with the team found intervention compliance to increase from 65% to 98% in Kuriachan et al.’s (2017) study

References: (Backman et al., 2010; Cerqueiro et al., 2010; Fisher et al., 2010; Gabriel & Hobbs, 2019; Hernandez et al., 2010; Jatta et al., 2020; Kuriachan et al., 2017; Mathur, 2018; McCoy et al., 2017; Menegueti et al., 2019; Murphy et al., 2016; Sandberg et al., 2021).
Intervention

- ABCDE Bundle Checklist
- Daily
- Unit champions
- Reinforces prevention interventions
- Ensure that the catheter has appropriate indication
- Encourages early removal
- Encourage alternative device use
ABCDE Bundle

• A: Adherence to infection prevention
• B: Bladder scan
• C: Consider alternatives
• D: Do not use if not indicated
• E: Early removal

(Newman, 2011)
Bundle (ABCDE) Checklist for Prevention of CAUTIs

- Adherence to general infection control principles
  - Hand hygiene - most important factor in preventing nosocomial infections
  - Aseptic catheter insertion
  - Proper Foley catheter maintenance, education, and care by nursing staff
  - Foley catheter use surveillance and feedback

- Bladder ultrasound use protocol in place to avoid unnecessary catheterizations

- Catheter alternatives
  - Intermittent (“in and out”) catheterization for incomplete bladder emptying
  - External condom catheter for men with urinary incontinence
  - Absorbent pads and products for men and women with urinary incontinence

- Do not use the Foley catheter unless medically appropriate; know appropriate indications

- Early removal of the catheter using a reminder or nurse-initiated (i.e., automatic “stop orders”); removal protocol appears warranted


© UroToday CAUTI CHALLENGE. http://www.urotoday.com/cauti_center/tools-resources.html
# Project Implementation Checklist

## Insertion Checklist, ABDCE Bundle Interventions

Completed by RN inserting Foley

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Indication appropriate (D)</th>
<th>Bladder scan utilized (B)</th>
<th>Alternatives considered (C)</th>
<th>Verify order has nurse driven protocol attached to it (E)</th>
<th>Hand hygiene completed before, during, after (A)</th>
<th>14 or 16 French utilized (A)</th>
<th>Area cleaned with solution and lubrication applied generously (A)</th>
<th>Aseptic technique maintained throughout procedure utilizing two-person technique (A)</th>
<th>Securement device in place and intact (A)</th>
<th>If unsuccessful a new kit is obtained, do not reuse the contaminated catheter (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes/No/NA</td>
<td>Yes/No/NA</td>
<td>Yes/No/NA</td>
<td>Yes/No/NA</td>
<td>Yes/No</td>
<td>Yes/No/No</td>
<td>Yes/No/No</td>
<td>Yes/No/No</td>
<td>Yes/No/No</td>
<td>Yes/No/No</td>
</tr>
</tbody>
</table>

Indications for catheter use are certain surgeries (such as urology), acute retention/obstruction, hospice/comfort care, strict immobilization from trauma, healing for severe sacral wounds, strict I&O. Consider these alternatives; incontinence pads, intermittent cath, external catheters (condom and purewik).

## Daily Foley Care and Maintenance Audit Checklist, ABCDE Bundle Interventions

Leader and unit champion daily rounds, utilize ABCDE bundle checklist for further reference

<table>
<thead>
<tr>
<th>DATE:</th>
<th>MRN</th>
<th>MRN</th>
<th>MRN</th>
<th>MRN</th>
<th>MRN</th>
<th>MRN</th>
<th>MRN</th>
<th>MRN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Securement device applied &amp; intact</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Bag is below the bladder, and tubing not kinked</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Bag emptied routinely</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Care completed with soap and water</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>CHG bath</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Alternatives considered if able</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Active order present?</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Status</th>
<th>Continue D/C per order</th>
<th>Continue D/C per order</th>
<th>Continue D/C per order</th>
<th>Continue D/C per order</th>
<th>Continue D/C per order</th>
<th>Continue D/C per order</th>
<th>Continue D/C per order</th>
<th>Continue D/C per order</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>D/C per protocol</td>
<td>D/C per protocol</td>
<td>D/C per protocol</td>
<td>D/C per protocol</td>
<td>D/C per protocol</td>
<td>D/C per protocol</td>
<td>D/C per protocol</td>
<td>D/C per protocol</td>
</tr>
</tbody>
</table>

| p |  |  |  |  |  |  |  |  |
Evaluations

Formative
• Feedback from the champions
• Edited the daily sheets to include more rows

Summative
• Created a an online version of the checklist
• Champions felt that it created more accountability and caused a more in-depth look at the incitation's for the Foleys
Methods

• Data collected through daily checklist
• Device utilization collected through infection prevention
• Foley Days collected through Infection prevention
• CAUTI rates collected through infection prevention
Analysis Pre-Data

- Device utilization: 0.8
- Foley Days: 353
- CAUTI Rate: 3
Analysis Post Data

- Device utilization: 0.5
- Foley Days: 221
- CAUTI rates: 0
### Newark-Wayne Hospital Utilization Rate for NWH ICU

#### Foley Device Utilization Rate

For the weeks ending June 27, 2021 - January 02, 2022

*It is optimal to be below the goal*

#### Newark-Wayne Hospital Utilization Rate for NWH ICU

#### Foley Device Utilization Rate

For the weeks ending December 26, 2021 - July 03, 2022

*It is optimal to be below the goal*
Newark-Wayne Hospital
Utilization Rate for NWH ICU

Foley Device Utilization Rate

For the weeks ending February 20, 2022 - August 28, 2022

It is optimal to be below the goal
Foley Days and Device Utilization

Foley Days

Device utilization rate 8 week average
Analysis $P$ Value

- **P-Values**
  - Device utilization: $P = .021$
  - Foley Days: $P = .006$
  - CAUTI rate: $P = 1$

- Device utilization showed a significant relationship with the checklist
- CAUTI rates did not show significance
Results

• 38% decrease utilization rates
• 37% decrease in Foley days
• 100% decrease in CAUTI rate
Implications

• Empowered nursing care allowing the nurse to work at full scope of practice.
• Reduced morbidity and mortality enhancing the care nursing provides to the community.
• Fiscally responsible care improves work environments and allows better allocation of Funds.
• Checklists have been shown to successfully promote intervention compliance improving the quality of care provided by the nurse.
Limitations

• Short time frame of 8-10 weeks
• Statistical analysis difficult for sample size
• Insertion checklist and utilizing 2 person could be added to further quality improvement project
Conclusions

- Reduction in device days and CAUTI rates
- Similar results to those found in the literature review
- Working on sustainability
- Implemented at Clifton Springs Hospital and Clinic
References

References


