Organization: Medstar Good Samaritan Hospital

Title: Call for Action: Prevention of CAUTI in the Acute Care Setting

Program/Project Description, including Goals:
According to the Centers for Disease Control and Prevention (CDC), “urinary tract infections (UTIs) are the most common type of healthcare-associated infection reported to the National Healthcare Safety Network (NHSN)” (reference CDC). The report shows that approximately 75% of UTIs are associated with a urinary catheter and between 15-25% of hospitalized patients have a urinary catheter inserted during their hospital stay. Evidence supports the risk of a catheter associated urinary tract infection (CAUTI) increases with prolonged catheter duration. Indwelling urinary catheters should be removed when there is no longer a clinical indication. The 2009 CDC guidelines for prevention of catheter associated urinary catheter infections recommends that urinary catheter use be evaluated for appropriate indication so as not to be used for convenience or as an alternative to basic nursing care.

Goal Statement: Achieve reduction in CAUTI events by review and implementation of best practices for utilization and management.

Process:
The PDCA methodology was utilized to achieve CAUTI reduction at our facility. The process included incorporation of established evidence-based guidelines for maintenance and utilization of indwelling urinary catheters. The guidelines included the following:
- Limiting use and duration to situations necessary for patient care
- Using aseptic techniques for site preparation, equipment, and supplies
- Securing catheters for unobstructed urine flow and drainage
- Maintaining the sterility of the urine collection system
- Replacing the urine collection system when required
- Collecting urine samples

The process also included measuring and monitoring catheter-associated urinary tract infection prevention processes and outcomes in high-volume areas by completing the following:
- Selecting measures using evidence-based guidelines and/or best practices
- Monitoring compliance with evidence-based guidelines and/or best practices
- Evaluating the effectiveness of prevention efforts
- Maintaining measurable outcomes

Solution:
In an effort to comply with both the CDC guidelines, and the Joint Commission National Patient Safety Goal (NPSG) on CAUTI prevention, MedStar Good Samaritan Hospital Nursing Quality & Safety (Q&S) Council developed a performance improvement plan to ensure the recommended evidence-based practices were in place and that Foley catheters were being utilized appropriately.

In March 2012 a baseline prevalence study of Foley catheter maintenance and utilization was performed by the Nursing Quality & Safety Council. The study results suggested there were
opportunities for improvement in both maintenance and utilization areas when compared to evidence-based practice. A review of the electronic medical record (MedConnect II) Foley catheter indication values was performed in preparation for phase 2 of the system to be implemented in April 2013.

In October 2012, BARD Medical ® conducted a baseline point prevalence survey of Foley Catheter maintenance and utilization at MGSH. Our baseline utilization rate was 18%. Results were shared with the Nursing Professional Practice Council, Nursing Education Council and the Nurse Management Council.

In December 2012, the BARD Medical ® provided super user training to the Nursing Quality & Safety Council representatives. The Council modified their prevalence study audit tool to reflect the BARD Medical ® review (Attachment I). Quarterly Foley catheter prevalence studies were conducted throughout calendar year 2013 and fiscal year 2014 on all inpatient units to evaluate for improvement. Results were shared with the Patient Care Managers, the Nursing Professional Practice Council and the Nursing Education Council.

In January 2013, the Nursing Professional Practice Council finalized revisions to Procedure & Protocol for Insertion & Management of a Patient with a Foley Catheter based on evidence-based guidelines. The Nursing Quality & Safety Council then developed CAUTI prevention education posters for each unit.

In February 2013, an upgrade was made to the BARD IC urine catheter kit. A new STAT LOCK device replaced the leg strap device. BARD Medical ® provided additional education to the Nursing Education Council. Desktop education was posted on the hospital’s intranet site for both nurses and techs. BARD Medical ® then rounded on all of the units to demonstrate the new STAT LOCK catheter securement devices.

In October 2013, the Nursing Quality & Safety Council presented a performance improvement poster on the CAUTI prevention program for the Safety Fair held at MGSH.

In the spring of 2014, the Nursing Professional Practice Council developed a nurse driven protocol for the discontinuation of an indwelling urinary catheter in the adult population. The Medical Executive Committee approved the protocol in July 2014 and the Nursing Education Council developed intranet desktop education for the nursing staff to complete.

In October 2014, the Quality Management Department launched data dashboards on the hospital’s intranet site that includes Foley catheter audit results and CAUTI results by unit.
Measurable Outcomes:

Part 1: Foley Catheter Maintenance Results (See attachment II)

- Foley catheters were secured per evidence-based guidelines 97% or better for all of fiscal year (FY) 2014
- The tamper evident seal was intact 100% of the time on all units except ICU/CCU in FY 2014. A separate improvement opportunity was identified for the critical care areas as a result of the study secondary to the need to break the tamper evident seal to attach urine meter.
- There was zero dependent tubing loops observed in all of FY 2014.
- Foley Catheter bags were located below the bladder 100% of the time in FY 2014.
- There were zero Foley catheter bags found on the floor the last three quarters of FY 2014.
- Catheter bags were not over-filled with urine 92% or greater for all of FY 2014.
- Catheters were inserted per HICPAC guidelines 82% or better in FY 2014. The goal of 100% was achieved in quarter 3 FY 2014. This measure continues to be our greatest opportunity for improvement going forward in FY 2015.

Part 2: Rate of CAUTI Events

There were zero CAUTI events between April 2013 and December 2013 and overall CAUTI rate has been at or below the goal since December 2012.

Sustainability:

Process improvements and a low CAUTI rate will be sustained via the following actions:

- The electronic medical record (MedConnect II) added a nursing task to document the indication for the Foley catheter every shift for those patients with a Foley catheter in place.
- The Nursing Q&S Council will continue to review Foley catheter utilization for evidence-based indications on a quarterly basis.
Nurses will assess the potential for removal of Foley catheters during daily charge nurse and bedside rounds.

Nurses will proactively advocate for removal of Foley catheters during daily interdisciplinary rounds for patients who no longer meet indications.

Nurses to use new nurse driven protocol, initiated in July 2014 for the discontinuation of an indwelling urinary catheter in the adult population.

Education related to evidence-based practice will be incorporated in new nursing orientation

Updated CAUTI data is posted on all of the units for staff review.

Foley catheter audit data and CAUTI data is now being posted on the hospital’s intranet site.

Role of Collaboration and Leadership:
The Chief Nursing Officer attends the monthly Nursing Quality & Safety Council and was in full support of the CAUTI reduction project. She offered suggestions and reviewed the outcome data at each meeting. She supported the partnership with both the Bard Medical ® and Hill Rom ® Companies who provided both Council and unit level education. The CNO was also instrumental in promoting the MEC’s approval of the nurse driven protocol for the discontinuation of an indwelling urinary catheter.

Nursing Informatics was involved at the system level with the changes made to the electronic medical record in phase 2 whereby the indications for continued use of a Foley catheter was built into the nursing task functionality. The Nursing Quality & Safety Council is also fortunate to have a Clinical Informatics nurse as a collaborative member.

The Director of Infection Control collaborates with the Nursing Quality & Safety Council meetings on a quarterly basis and provides unit level CAUTI data for review. She also provided a root cause analysis for any CAUTI event that occurred for educational and improvement purposes.

The Nursing Professional Practice Council collaborated with Infection Control, Nursing Quality & Safety Council and the Nurse Management Council to revise the Procedure & Protocol for Insertion & Management of a Patient with a Foley Catheter. The Nursing Education Council collaborated with the Nurse Educators to educate nursing staff on both the Foley catheter insertion and removal protocols.

Collaboration is also evident via interdisciplinary rounding. Physicians and Physical and Occupational therapists support the need to mobilize patients which can be more easily achieved without a Foley catheter.

What partners and participants were involved?

- Bard Medical ®
- Hill-Rom ®
- Nursing Quality & Safety Council
- Nursing Professional Practice Council
- Nursing Management Council
- Nursing Education Council
Was the organization’s leadership engaged? Yes, the organization’s leadership was engaged and excited to embrace a performance improvement plan to address catheter associated urinary tract infections. The nursing management fully supported the staff via their monthly review of process data, individual unit feedback, and innovative solution approach. Nursing leadership approved of revisions to the Foley Catheter policy and promoted approval of the nurse driven protocol to remove Foley Catheters by the MEC.

Innovation: What makes this Solution innovative? What are its unique attributes?
The solution involved evidence-based practice to obtain the results in the performance improvement process. The nursing staff used a proactive and innovative approach to identify and solve areas for improvement. The nursing staff contacted Bard Medical ® and Hill Rom ® Companies to address the following concerns related to Foley catheter maintenance:

- The new Hill Rom beds had height settings that were so low to the floor that the Foley catheter tubing and the bag touched the floor and formed a dependent loop. Hill Rom provided education at the Safety Fair to show the proper technique to secure the Foley catheter tubing to their newly designed bed.
- A registered nurse from the BARD medical ® Company provided education to the Nursing Q&S Council with respect to the evidence-based Foley catheter maintenance and infection prevention techniques. The Nursing Quality & Safety Council members then provided the education to their respective units.

Related Tools – see attached Foley Catheter Audit Tool

References:
Centers for Disease Control and Prevention Reference:
http://www.cdc.gov/HAI/ca_utl/uti.html


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<th>MR #</th>
<th>Is a Foley Catheter present?</th>
<th>Is Foley insertion date documented?</th>
<th>Is the Foley catheter secured?</th>
<th>Is the Tamper Evident Seal intact?</th>
<th>Is the catheter tubing free of loops?</th>
<th>Is the catheter bag below the bladder?</th>
<th>Is the catheter bag off the floor?</th>
<th>Is the catheter bag &lt; 1000 ml?</th>
<th># of days patient with Foley catheter (Count day of insertion as day 1)</th>
<th>What was the reason for the Foley Catheter?</th>
<th>Is Reason or Indication for Foley Catheter per HICPAC Guidelines?</th>
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<td>Is the dependent loop compliant?</td>
<td>Is catheter bag below the bladder?</td>
<td>Is catheter bag off the floor?</td>
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<td># of days patient with Foley catheter (Count day of insertion as day 1)</td>
<td>What was the reason for the Foley Catheter?</td>
<td>Is Reason or Indication for Foley Catheter per HICPAC Guidelines?</td>
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