Catheter Associated Urinary Tract Infections
Presented By:

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and

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Infection Preventionist & Administrative Laboratory Director
Achieving Clinical Transformation is an initiative to reduce hospital acquired conditions.

Focus on 5 clinical indicators with teams for each one.
Focus Areas

- CAUTI-Catheter Associated UTIs
- VAP-Ventilator Associated Pneumonia
- Falls
- CLABSI-Central Line Associated Blood Stream Infections
- Pressure Ulcers
Cost to Healthcare

- The Centers for Medicare and Medicaid Services (CMS) views CAUTIs as unacceptable harm resulting from medical care. Hospitals will be at risk for financial losses if CAUTIs occur.

- More than 1 million cases of CAUTIs occur annually. The cost associated with hospital acquired UTIs due to indwelling catheters is approximately $450 million.
Incidence of CAUTIs

- UTIs account for approximately 40% of all hospital-acquired infections.
- Most of these infections are associated with indwelling catheters.
- Up to 25% of hospital patients have a catheter; over 50% of these are unnecessary.
- In hospitalized older patients without a specific medical indication for use, a catheter has been associated with a greater risk of death (4 times as great during hospital stay and twice as great within 90 days after discharge).
## Statistics Through May 2009

<table>
<thead>
<tr>
<th>CAUTI 2009</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Infections</strong></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Device Days</strong></td>
<td>158</td>
<td>171</td>
<td>144</td>
<td>166</td>
<td>149</td>
</tr>
<tr>
<td><strong>Infection Rate Per 1,000 Device Days</strong></td>
<td>6.3</td>
<td>5.8</td>
<td>0.0</td>
<td>0.0</td>
<td>20.1</td>
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<tr>
<td><strong>Benchmark NHSN</strong></td>
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<tr>
<td><strong>% Utilization by Patient Days</strong></td>
<td>9.0</td>
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Performance Committee

Membership Included:

- Medical Staff
- Nursing
- Infection Preventionist
- Quality
- IT
Identifying Strategies

- Medical Staff Education by Chief Medical Officer
- Staff education about catheter management
- Monitoring of catheter days
- Monitoring of CAUTI incidence
- Development of documentation tool
IHI Bladder Bundle

- Aseptic insertion and proper maintenance
- Bladder ultrasound may avoid indwelling catheterization
- Condom or intermittent catheterization in appropriate patients
- Do not use the indwelling catheter unless you must!
- Early removal of the catheter using reminders or stop orders
Indications for Indwelling Catheter

- To relieve urinary obstruction
- Urinary drainage in patients with neurogenic bladder and urinary retention
- To aid in urologic surgery or surgery on contiguous structures
- To obtain accurate measurement of urinary output in critically ill patients
- For protection of stage 3 & 4 sacral decubiti in the incontinent patient
- To provide comfort for the terminally ill patient
Recommended Guidelines

- Maintain a sterile, continuously closed drainage system
- Keep catheter properly secured to prevent movement and urethral traction
- Keep collection bag below the level of the bladder at all times
- Maintain unobstructed urine flow
- Empty collection bag regularly, using a separate container for each patient
- Avoid allowing the drainage spout to touch the collection container
- Maintain meatal care with routine hygiene
Prevention Strategies

- Avoid unnecessary catheterization
- Perform hand hygiene
- Use proper catheter insertion technique
- Maintain a closed drainage system
- Proper routine catheter care
- Prompt removal after appropriate use – review need for catheter daily
Practices to Avoid

- Irrigating catheters, except in cases of catheter obstruction.
- Disconnecting the catheter from the drainage tubing.
- Replacing catheters routinely (in the absence of obstruction or infection); if the collection system must be replaced, use aseptic technique.
How to Reduce CAUTI

HOW YOU CAN HELP REDUCE CATHETER ASSOCIATED UTIs!

Perform hand hygiene!
Hand washing is the first and most important preventive measure!

Never let the foley collection bag remain on the floor.
Always position the collection bag below the level of the bladder.
Empty the collection bag before it gets too full.
Cleanse around the catheter and along the length of the catheter with soap and water daily.
Maintain a sterile, continuously closed drainage system.
Do not disconnect unless absolutely necessary. Each time the catheter tubing is disconnected increases the likelihood of an infection.
Assess patients for their need for a catheter.
Not all patients NEED them!
Insert catheters using aseptic technique and sterile equipment. Use as small a catheter as possible to minimize trauma.
Properly secure catheters after insertion to prevent movement and urethral traction.

Do not collect a catheter specimen from the drainage bag. Collect the specimen from the sampling port with a sterile needle and syringe after cleansing the port with alcohol.
Always document the date, time, size of catheter, and size of balloon when inserting foley catheters.
Always document if the catheter was present when the patient arrives for services at St. James.
UTIs are the most common nosocomial infection!
Hospital acquired UTIs increase the patient’s length of hospitalization.
The annual cost of nosocomial UTIs is approx $450 million!

Common Microbes

- E.coli
- Klebsiella
- Pseudomonas
- Staph aureus
- Enterococcus
Daily Review of Necessity

“The duration of catheterization is the most important risk factor for the development of infection.” SHEA-IDSA Compendium, October 2008

- 47% of patient days had no justification for continued catheterization
- 41% of the time, physicians were unaware of patients inappropriately catheterized.
- Common saying – a catheter in place for 48 hours the patient is headed for trouble; a catheter in place for longer than 48 hours means the patient is in trouble
Data Tracking

Order Obtained: 
Date Inserted:  
Time Inserted:  
Inserted By:  
Catheter Size:  
Balloon Size:  
Date To Review:  (every 24 hours)

Reasons for Catheter:
- Inability to void/Urinary Retention
- Specimen Collection*  
- Alternate Methods Not Available
- To Obtain an accurate measure of urinary output*  
- Alternate Methods Not Available
- To aid in urologic surgery/studies, or surgery on contiguous structures
- Skin Breakdown (ex Stage 2, 3 or 4 Breakdown)
- Injury (ex Head, Hip, Pelvis)
- Chemically Sedated/Paralyzed
- Surgical
- Terminally Ill Patient, for palliative care
- Neurogenic bladder
- Requires continuous bladder irrigation

Nature of Procedure:

The catheter can only be removed by order of a urologist.

Out on Bed:  
1st Day:  
2nd Day:  
3rd Day:  
4th Day:  
5th Day:  
6th Day:  
7th Day:  
8th Day:  
9th Day:  
10th Day:  

Call MD when magnesium comes back

Clinical Parameters:
- Vital Signs (V5)
- Perirect.
Screensavers

"NAUGHTY CAUTI'S"

Do You Need that Foley?

Is it Indicated?

Is there an ALTERNATIVE?

Is it STILL needed?

GOAL:

Out by 48 Hours!
Bladder Scanner
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# Yearly Average Data

<table>
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<tr>
<th>CAUTI</th>
<th>2009 Avg Prior to Implementation</th>
<th>2009 Avg After Implementation</th>
<th>2010 Yearly Avg</th>
<th>2011 Yearly Avg</th>
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Key Points

- Overuse of urinary catheters contributes to the frequency of UTIs
- UTIs increase morbidity, length of stay, and increase healthcare costs
- Differences in CAUTI definitions have led to confusion and misinterpretation of the actual numbers of CAUTI
- A risk assessment and surveillance system is needed to identify areas of improvement in the prevention of CAUTI
- Promote appropriate use of antibiotics, targeting infection rather than colonization
- Prevention strategies must focus on clear indications for the insertion of a catheter, proper maintenance, and early removal
Important Note

- Catheters should never be used for the convenience of patient care personnel or at the request of the patient or family.
Questions