Teamwork to Reduce CAUTI: The Importance of Physician Leadership

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On the CUSP: Stop CAUTI

Project Goals

• Reduce mean CAUTI rates in participating clinical units by 25 percent

• Improve safety culture as evidenced by improved teamwork and communication by employing CUSP methodology.
Cohort 9 ICU Project Associations

- Society of Hospital Medicine (SHM)
- Association for Professionals in Infection Control and Epidemiology (APIC)
- The Society for Healthcare Epidemiology of America (SHEA)
- Emergency Nurses Association (ENA)
- The American College of Emergency Physicians (ACEP).
On the CUSP: Stop CAUTI
Map of Participating Hospitals
Objectives

- Participants will understand the magnitude of CAUTI in hospitals
- Participants will understand appropriate indications for indwelling catheters
- Participants will describe CAUTI prevention measures
- Participants will learn interventions implemented by United Hospital
Background: Impact of CAUTI

• Most common type of healthcare-associated infection
  – > 30% of HAIs reported to NHSN
  – Estimated > 560,000 nosocomial UTIs annually
• Increased morbidity & mortality
  – Estimated 13,000 attributable deaths annually
  – Leading cause of secondary BSI with ~10% mortality
• Excess length of stay — 2-4 days
• Increased cost — $0.4-0.5 billion per year nationally
• Unnecessary antimicrobial use

Hidron AI et al. ICHE 2008;29:996-1011
Green MS et al. J Infect Dis 1982;145:667-72
Saint S. Am J Infect Control 2000;28:68-75
* Indicates that the HEN SIR is statistically different from the estimated national PfP average at $p < .05$. 

**CAUTI SIR by HEN: Q2 2012**

*(NHSN Data)*
### Minnesota Healthcare-Associated Infections (HAI) Progress

Data from healthcare facilities and public health agencies is used to design, implement, and evaluate HAI prevention efforts.

#### Legend
- **↓** 2013 state SIR is significantly lower (better) than comparison group in column header.
- **↑ or ↓** Change in 2013 state SIR compared to group in column header is not statistically significant.
- **↑** 2013 state SIR is significantly higher (worse) than comparison group in column header.
- **■** 2013 state SIR cannot be calculated.

#### Table

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CLABSI</td>
<td>Total Hospitals in State: 144+</td>
<td>47</td>
<td>↓ 7%</td>
<td>↑ 18%</td>
<td>↓ 56%</td>
<td>0.44</td>
</tr>
<tr>
<td>CAUTI</td>
<td></td>
<td>51</td>
<td>↑ 14%</td>
<td>↓ 19%</td>
<td>↑ 26%</td>
<td>1.26</td>
</tr>
<tr>
<td>SSI, Abdominal Hysterectomy</td>
<td></td>
<td>50</td>
<td>↓ 5%</td>
<td>↑ 19%</td>
<td>↓ 2%</td>
<td>1.02</td>
</tr>
<tr>
<td>SSI, Colon Surgery</td>
<td></td>
<td>51</td>
<td>↑ 44%</td>
<td>↓ 7%</td>
<td>↑ 2%</td>
<td>0.98</td>
</tr>
<tr>
<td>MRSA Bacteremia</td>
<td></td>
<td>53</td>
<td>2012 SIR not available</td>
<td></td>
<td>0.51%</td>
<td>0.45</td>
</tr>
<tr>
<td>C. difficile Infections</td>
<td></td>
<td>55</td>
<td>2012 SIR not available</td>
<td></td>
<td></td>
<td>0.83</td>
</tr>
</tbody>
</table>

*Not all hospitals are required to report these infections; for example, some hospitals do not use central lines or urinary catheters, or do not perform colon or abdominal hysterectomy surgeries.

*The state's 2012 SIR can be found in the data tables of this report.

*Nat'l baseline time period varies by infection type. See first column of this table for specifics.
NATIONAL

Healthcare-associated infections (HAIs) are infections patients can get while receiving medical treatment in a healthcare facility. Working toward the elimination of HAIs is a CDC priority. The standardized infection ratio (SIR) is a summary statistic that can be used to track HAI prevention progress over time; lower SIRs are better. The infection data are collected through CDC’s National Healthcare Safety Network (NHSN). HAI data for nearly all U.S. hospitals are published on the Hospital Compare website.

SSIs

SURGICAL SITE INFECTIONS

See page 3 for additional procedures

- When germs get into an area where surgery is or was performed, patients can get a surgical site infection. Sometimes these infections involve only the skin. Other SSIs can involve tissues under the skin, organs, or implanted material.

- SSI: Abdominal Hysterectomy
  - 14% LOWER COMPARED TO NAT'L BASELINE*
  - U.S. hospitals reported no significant change in SSIs related to abdominal hysterectomy surgery between 2012 and 2013.
  - Among the 765 U.S. hospitals with enough data to calculate an SIR, 6% had an SIR significantly worse than the national SIR of 0.86.

- SSI: Colon Surgery
  - 8% LOWER COMPARED TO NAT'L BASELINE*
  - U.S. hospitals reported a significant increase in SSIs related to colon surgery between 2012 and 2013.
  - Several changes to the NHSN 2013 SSI protocol likely contributed to an increase in the national and some state-specific colon surgery SIRs compared to 2012.
  - Among the 2,030 U.S. hospitals with enough data to calculate an SIR, 7% had an SIR significantly worse than the national SIR of 0.82.

C. difficile Infections

LABORATORY IDENTIFIED HOSPITAL-ONSET C. DIFFICILE INFECTIONS

- When a person takes antibiotics, good bacteria that protect against infection are destroyed for several months. During this time, patients can get sick from Clostridium difficile (C. difficile), bacteria that cause potentially deadly diarrhea, which can be spread in healthcare settings.
  - U.S. hospitals reported a significant decrease in C. difficile infections between 2012 and 2013.
  - Among the 3,557 U.S. hospitals with enough data to calculate an SIR, 13% had an SIR significantly worse than the national SIR of 0.90.

* Statistically significant.

THIS REPORT IS BASED ON 2013 DATA, PUBLISHED JANUARY 2015
<table>
<thead>
<tr>
<th>HAI TYPE</th>
<th># OF U.S. HOSPITALS THAT REPORTED DATA TO CDC'S NHSN, 2013</th>
<th>2013 NAT'L SIR VS. 2012 NAT'L SIR</th>
<th>2013 NAT'L SIR VS. NAT'L Baseline</th>
<th>2013 NAT'L SIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLABSI (Natl Baseline: 2008)</td>
<td>3,578</td>
<td>↓ 4%</td>
<td>↓ 46%</td>
<td>0.54</td>
</tr>
<tr>
<td>CAUTI (Natl Baseline: 2009)</td>
<td>3,640</td>
<td>↑ 3%</td>
<td>↑ 6%</td>
<td>1.06</td>
</tr>
<tr>
<td>SSI, Abdominal Hysterectomy</td>
<td>3,182</td>
<td>↓ 4%</td>
<td>↓ 14%</td>
<td>0.86</td>
</tr>
<tr>
<td>SSI, Colon Surgery</td>
<td>3,348</td>
<td>↑ 14%</td>
<td>↓ 8%</td>
<td>0.92</td>
</tr>
<tr>
<td>MRSA Bacteremia</td>
<td>9,827</td>
<td>↑ 5%</td>
<td>↓ 9%</td>
<td>0.92</td>
</tr>
<tr>
<td>C. difficile Infections</td>
<td>3,924</td>
<td>↓ 6%</td>
<td>↑ 10%</td>
<td>0.90</td>
</tr>
</tbody>
</table>

*The number of hospitals reporting for each HAI type may differ because some hospitals do not use central lines or urinary catheters, or do not perform colon or abdominal hysterectomy surgeries.

*The 2012 Nat'l SIRs can be found in the data tables of this report.

Nat'l baseline time period varies by infection type. See first column of this table for specifics.
CAUTI Standardized Infection Ratio (SIR) in ICUs
All Reporting Hospitals Nationally (n = 3,084)

16.8% Increase since Baseline

1.21

Source: NHSN (n=3,084 to 3,280 hospitals, depending on the quarter)
Catheter-Associated UTIs (CAUTIs)

- Hospital-acquired bacteriuria and candiduria in 25% of those with urinary catheters placed for a week
- Risk of bacteriuria: about 5% per day
- Symptomatic UTI: 16-32% of those bacteriuric

Isn’t this a patient safety issue, not just CAUTI?
Financial Penalties for Hospital-Acquired Complications

Multiple Medicare programs using NHSN CAUTI rates to assign 1-2% reductions in all Medicare payments to hospitals.

- Hospital-Acquired Condition Reduction Program began Oct 2014
- Hospitals with composite complication score in worst 25% will be penalized by 1% reduction for all Medicare payments
- Of the ten non-reimbursable selected conditions by CMS, 65% are attributed to CAUTI and CLABSI
Ten Non-Reimbursable Selected Conditions by CMS
(October 2008)

1. Foreign Object Retained After Surgery
2. Air Embolism
3. Blood Incompatibility
4. Stage III and IV Pressure Ulcers
5. Falls and Trauma
6. Manifestations of poor glycemic control
7. Catheter-Associated Urinary Tract Infection
8. Vascular Catheter-Associated Infection
9. Surgical Site Infection-Mediastinitis, bariatric, some ortho
10. DVT/PE post orthopedic cases

http://www.cms.hhs.gov/HospitalAcqCond/
Indication of Foley Catheter

- Acute urinary retention or obstruction
- Accurate measurement of urinary output in the critically ill patients (intensive care)
- Perioperative use in selected surgeries
- Assist healing of perineal and sacral wounds in incontinent patients
- Hospice/comfort care/palliative care
- Required immobilization for trauma or surgery
- Chronic indwelling urinary catheter on admission

In 2009, HICPAC and CDC recommended a list of appropriate and inappropriate indications for urinary catheter placement based on a critical review of the available medical literature.
Indication of Foley Catheter

1. Acute urinary retention or obstruction
   - Mechanical Obstruction
   - Urethral or Bladder Outlet obstruction
   - Neurogenic Bladder

2. Accurate Measurement of Urinary Output in critically ill patients
   - Only in Hemodynamically unstable
   - Icu patients who are stable, consider, Alternate ways to monitor Urinary output
Indication of Foley Catheter

3. Perioperative Use in selected surgeries

If surgery is prolonged, large volume infusions during surgery; need for intra-op monitoring; urological surgeries, GU tract surgeries. Foley should not be used routinely for epidural anesthesia.

4. To assist Healing of Moderate to severe perineal and sacral wounds in incontinent patients

- Relative indication when there is concern that urinary incontinence is leading to worsening skin integrity.
- Foley should not be used as substitute for the use of skin care, skin barriers and other methods to manage incontinence.
Indication of Foley Catheter

5. Hospice/Comfort/Palliative Care
   - Acceptable indication for catheter use in end of life care.

6. Required Immobilization for Trauma or Surgery
   - Instability in thorax or lumbar spine.
   - Multiple traumatic injuries.
   - Pelvic fracture, acute hip fractures, where there is risk of displacement with movement.

7. Chronic Indwelling urinary catheter on admission
   - Patients admitted from home or an extended care facility with a chronic indwelling catheter are considered to have an acceptable indication.
Inappropriate Use

- 40% - 50% of patients from non-intensive medical and surgical units may not have a valid indication for urinary catheter placement.

- This can occur:
  1. At the time of placement
  2. With continued use
Inappropriate Use

- Monitoring urine output is not an appropriate indication when an alternative method is available
  - Include CHF patients with diuretics (use alternate ways)

- Incontinence without a sacral or perineal pressure sore
  - Mechanisms to keep skin intact need to be used

- Prolonged post-operative use
  - Catheters should be discontinued within 24 hours unless an appropriate indication exists for not removing (requires an additional order)
Inappropriate Use

- Patients transferred from ICU to floor
  - ICU nurse should remove the catheter prior to transfer to the floor unit
  - Handoff communication between ICU nurse and floor nurse should include a discussion about indication of continued Foley use
- Morbid obesity or immobility should not be a trigger for urinary catheter placement (i.e. patient was not admitted with a catheter)
- Confusion or dementia
  - Use alternate ways to measure urinary output
When to Call CAUTI

Is it “catheter-associated”?:

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foley Day 1</td>
<td>Foley Day 2</td>
<td>Foley Day 3</td>
<td>Foley Day 4</td>
<td>Foley Day 5</td>
<td>Foley Day 6</td>
</tr>
</tbody>
</table>

Not catheter-associated  Catheter associated=Yes

2015 Clarification: If removed and re-inserted, if the patient is without an indwelling catheter for at least 1 full calendar day, then the urinary catheter day count will start anew. If re-inserted before a full calendar day has passed, the urinary catheter day count will continue.
2015: OUT: yeast, urine analysis, and lower colony counts
Preventing Catheter-Associated Urinary Tract Infections:
What You Need to Know
Urinary Catheter Utilization

• Urinary catheters are often placed unnecessarily
• Placed without physician awareness
• Not removed promptly when not needed\(^1\)
• Prolonged catheter use is the strongest risk factor for catheter-associated urinary tract infection (CAUTI)\(^2\)

Reducing Risk of CAUTI

Appropriate Care of the Catheter

Proper Insertion Technique

Limit catheter use to indications (Avoid placing the catheter unless appropriately indicated)

Limit catheter use to indications (promptly remove those that are no longer necessary)

Reduce urinary catheter days leading to a reduction in days at risk for CAUTI

Reduce risk of introducing organisms to the bladder leading to a reduction of risk of CAUTI when catheter in place

Reduce urinary catheter days leading to a reduction in days at risk for CAUTI
Proper Insertion Technique

- Perform hand hygiene before and after placement
- Maintain aseptic technique and use of sterile equipment
- Use sterile gloves, drape, an antiseptic solution for periurethral cleaning, and a single packet of lubricant for insertion
- Use the appropriate catheter size
Maintenance of Urinary Catheters

- Keep a closed system for the urinary drainage system
- Make sure urinary flow is not obstructed:
  1. No kinks in the catheter
  2. Urinary bag should always be lower than the bladder
  3. Regular emptying of urinary bag
Limit Use to Indications

- Avoid use unless appropriate indication
- Promptly remove of catheter when no longer indicated

= Reduction in Inappropriate Urinary Catheter Use

Clear Identification of what is considered an appropriate indication
Removal of Inappropriate Catheters

- Nurse-driven protocols regarding removal of catheters
  - Pilot study: 45% reduction in unnecessary catheter utilization (Fakih et al, Infect Control Hosp Epidemiol 2008; 29: 815-9)
  - Most of the units involved were non-intensive care
Two Important Items

- Encourage and educate nurses and physicians to drive the process of daily urinary catheter assessment

- Provide periodic feedback to the units on their urinary catheter use and compliance with appropriate indications
Main Education is Performed During Nursing Rounds

- Does the patient have a urinary catheter?
- Reason for catheter use?
- If no appropriate indication, the patient’s nurse will contact the physician for an order to discontinue the urinary catheter.
- This process will be continued after implementation with the patient’s nurse owning the process.
Physicians

- Physicians should evaluate the need for the catheter daily
- High volume physicians (hospitalists) may be selected to champion the effort
- Physician leaders whose practice is followed by others (e.g., cardiology, nephrology) may also be instrumental in changing behaviors and monitoring of urine output in non-ICU
Alternatives to Indwelling Urinary Catheterization

- Bladder scanners are used when urinary retention is suspected, or when urinary output has not been captured and the clinician needs to evaluate for obstruction (bladder scanners need to be available).

- Condom catheters may be considered in men that require fluid monitoring:
  - Reduces the risk of urethral trauma (compared to indwelling urinary catheter).
  - Condom catheters are not used in cases of urinary retention.
Alternatives to Indwelling Urinary Catheterization

- Intermittent catheterization may be considered in patients with non-obstructive urinary retention (e.g., patients with neurogenic bladder)
CAUTI Prevention: Concise Summary of Recommendations

• **Adherence** to infection control principles (e.g., aseptic insertion, proper maintenance, education)

• **Bladder ultrasound** may avoid indwelling catheterization

• **Condom** or intermittent catheterization in appropriate pts

• **Do not** use the indwelling catheter unless you must!

• **Early removal** of the catheter

(Saint et al. Jt Comm J Qual Saf 2009)
Culture of Culturing
761 patients with newly inserted catheters, 10.8% developed bacteriuria or candiduria.

- Defined bacteriuria as $>10^3$ CFUs.
- Women had more bacteriuria (21.2%) than men (7.2%).
Pyuria and Bacteriuria
(Tambyah, Arch Intern Med. 2000;160:673-677)

Table 2. Urine White Blood Cell Counts in Hospitalized Patients With Catheters*

<table>
<thead>
<tr>
<th>Causes of the CAUTI</th>
<th>Gram-Negative Bacilli (n = 42)</th>
<th>Staphylococci or Enterococci (n = 27)</th>
<th>Yeasts (n = 31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uninfected Patients (n = 679)</td>
<td>Uninfected Patients (n = 679)</td>
<td>All Patients With CAUTIs (n = 92)</td>
<td></td>
</tr>
<tr>
<td>First day of infection</td>
<td>5 ± 57†</td>
<td>27 ± 163</td>
<td>34 ± 117</td>
</tr>
<tr>
<td>Mean, throughout infection</td>
<td>4 ± 28</td>
<td>71 ± 245‡</td>
<td>8 ± 12</td>
</tr>
<tr>
<td>Highest value</td>
<td>11 ± 100</td>
<td>309 ± 1065‡</td>
<td>9 ± 21</td>
</tr>
<tr>
<td>Gram-Negative Bacilli (n = 42)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staphylococci or Enterococci (n = 27)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yeasts (n = 31)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Data are given as the mean ± SD urine white blood cell count per microliter. All comparisons are not significant (P>.05) unless otherwise indicated. CAUTI indicates catheter-associated urinary tract infection.
†First day of catheterization.
‡All patients with CAUTI vs uninfected patients, P = .006.
§Caused by gram-negative bacilli vs uninfected patients, P = .04.

- Pyuria more common with bacteriuria related to gram negatives than gram positives or funguria
Pyuria and Bacteriuria
(Tambyah, Arch Intern Med. 2000;160:673-677)

Table 3. Utility of Pyuria for the Diagnosis of CAUTI*  

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. of Patients</th>
<th>Mean (%) of Patients With Pyuria</th>
<th>First Day of CAUTI</th>
<th>Highest Level</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Positive Predictive Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No CAUTI</td>
<td>679</td>
<td>65 (9.6)</td>
<td>81 (11.9)†</td>
<td>172 (25.3)</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>CAUTI, CFUs/mL</td>
<td>101</td>
<td>37 (36.6)</td>
<td>25 (24.8)</td>
<td>66 (85.3)</td>
<td>0.37</td>
<td>0.90</td>
<td><strong>0.36</strong></td>
</tr>
<tr>
<td>&gt;10³</td>
<td>71</td>
<td>33 (46.5)</td>
<td>21 (29.6)</td>
<td>53 (74.6)</td>
<td>0.47</td>
<td>0.90</td>
<td>0.32</td>
</tr>
</tbody>
</table>

*Pyuria is indicated by a white blood cell count greater than 10³ per microliter. The sensitivity, specificity, and positive predictive value were obtained using mean values. CAUTI indicates catheter-associated urinary tract infection; CFUs, colony-forming units; and ellipses, data not applicable.
†First day of catheterization.

Pyuria cannot predict bacteriuria
Color or Odor

(Hooton, *Clin Infect Dis* 2010; 50:625–663)

- IDSA guidelines:

  “In the catheterized patient, the presence or absence of odorous or cloudy urine alone should not be used to differentiate CA-ASB from CA-UTI or as an indication for urine culture or antimicrobial therapy.”
Screening Urine Cultures

The practice: “screening culture on admission,” “standing orders,” or “reflex orders” for urine cultures based on urinalysis results

1. May not help the hospital avoid non-reimbursement
2. May increase utilization of additional resources (testing, antibiotics, consults)
3. May adversely affect patients by exposing them to inappropriate testing and treatments
IDSA Guidelines for Asymptomatic Bacteriuria

- Screening and treatment of asymptomatic bacteriuria not recommended for:
  1. Non-pregnant women
  2. Diabetic women
  3. Elderly in the community or institutionalized
  4. Persons with spinal cord injury
  5. Patients with indwelling catheter
# How to Reduce Unnecessary Urine Cultures

## Key Points Related to Obtaining Urine Cultures

1. Make sure clinicians are aware of the appropriate indications to obtain urine cultures.
2. Point out the risk of indiscriminate urine culture use on patient outcomes.
3. Address the local "culture" or practice of clinicians at your institution to align with optimal patient care.
4. Avoid ordering cultures without a clinical assessment of the patient's condition.

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[http://www.onthecuspstophai.org/on-the-cuspstop-cauti/toolkits-and-resources/additional-resources/](http://www.onthecuspstophai.org/on-the-cuspstop-cauti/toolkits-and-resources/additional-resources/)
Reducing CAUTIs in the ICU

**Goal**

**Optimize catheter maintenance**

- Limit duration of catheter use

**Tool**

- Periodic audit
- Direct observation
- Device rounds
- Daily assessment of indication
- Reminders/stop orders
- Nurse-driven removal protocol

**Limit inappropriate culturing practices**

- Perform clinical assessment for S/Sx of SUTI
- Require RUA
- Avoid “pan culturing”
Summary

- Both nurses and physicians should evaluate the indications for urinary catheter utilization.
- Physicians should promptly discontinue catheters when no longer needed.
- Nurses evaluating catheters and finding no indication should contact the physician to promptly discontinue the catheter.
- Partner with different disciplines (e.g., case management, nursing, infection prevention) to successfully achieve your goals.
Our CAUTI story at United Hospital’s Neuro ICU

Presented by:
Breanne Rasmussen, RN, BSN
United Hospital

- Located in downtown St. Paul, MN
- 350 beds
  - 14 Medical/Surgical Units
    - Telemetry
    - Geriatric/Adolescent Mental Health
    - Mother/Baby
    - Oncology
  - 2 Intensive Care Units
    - Medical/Surgical
    - Neuroscience
Neuroscience Intensive Care Unit

- Opened August 13th, 2013
- 14 bed unit
- Specializes in Neurovascular Surgery, SAH, IVH, EC-IC bypass, aneurysm coiling and clipping
- For the first year we averaged 1 CAUTI a month
- We are now **146** days CAUTI free!! (as of March 5th, 2015)
5 Steps to Succeed in Reducing CAUTI
5 Steps to Succeed

#5 - Foley Bundle
Foley Bundle

- **Key**: CAUTI prevention strategies all in one place
- Posted in break rooms, doctors lounges, and staff bathrooms
- 3 categories:
  - Foley FAQs
  - Appropriate Indications
  - “To do” list for every shift
5 Steps to Succeed

#4 - Foley Audits
Identifying Defects
Neuro ICU CAUTI team

- Creation of a unit based CAUTI team to do daily audits, based on the leader foley rounds implemented in Spring 2014
- Nurse Champions for every shift
- Designated resources for foley questions
# Auditing Tool

## Date: __________  Unit Census: __________

<table>
<thead>
<tr>
<th>Room Number</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Is Catheter Present? (Yes or No)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If yes, where was Catheter placed? (On the Unit, On the Unit, Unknown)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How many catheter days? (insertion is day 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Why does the patient have a catheter TODAY? (Check the MAIN reason for the catheter)

#### APPROPRIATE Indications
- Acute urinary retention or obstruction
- Urine output monitoring in critically ill patient
- Perioperative use in select surgeries (Gyn/Uro surgery)
- Assist healing of perineal or sacral wound in an incontinent patient
- Comfort/Hospice/Palliative Care
- Prolonged Immobilization i.e. vent & sedated
- Epidual
- Intraop Insertion (new order required POD 2)
- Chronic indwelling catheter on admission

#### INAPPROPRIATE Indications

### Does the Catheter have an Appropriate Indication for TODAY? (answer Yes or No)

### ACTION TAKEN
- If catheter does NOT have an appropriate indication, what action was taken? (check box)
  - Nurse removed catheter today
  - Staff contacted Dr. Dr. ordered removal
  - Staff contacted Dr. Dr. did NOT order removal
  - No action taken
Foley Round Summaries

Monthly Foley Round Summaries compiled by Infection Preventionist, and reviewed in Staff Meetings by Nurse Manager.
5 Steps to Succeed

#3 - CAUTI Alerts
An Infection is more than just a number
Each Infection Is More Than Just A Number

- Posted on Infection Board in report room
- Updated every month
- Picture shows each CAUTI as a person, not a number

### 2014 NEURO ICU CAUTI Cases

<table>
<thead>
<tr>
<th>Date</th>
<th>Case</th>
<th>CAUTI FREE!</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Jan 2014</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1 Feb 2014</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1 Mar 2014</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1 Apr 2014</td>
<td>1</td>
<td>1</td>
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4400 CAUTI Alert

Situation
- Symptomatic Catheter-Associated Urinary Tract Infection occurred on 7/22/2014

Background
- CAUTI #6 for Neuro ICU occurred on 7/22/2014
- Urine culture positive for Klebsiella oxytoca
- Patient developed fever on 7/22 of 103.2
- The longest CAUTI free streak 4400 had was after opening from August 15th to October 2nd, lasting 51 days.

Assessment
- Patient had foley in place for 5 days, per documentation was placed in OR
  - Foley was removed on 7/21 (day) before displaying symptoms of infection (fever)
- Per documentation:
  - Patient received perineal/foley care 18 times during the time frame of 7/19-7/22
  - Patient received 2 topical baths on 7/20, 7/21, 7/22
  - Foley was emptied twice prior to being discontinued on 7/21, three times on 7/20, and four times on 7/19
  - Two foley orders on 7/17 indicating contacting provider for removal, or discontinuation of foley POD 2.
    - Foley ordered for removal POD 4

Recommendations
- Before placing foley, ensure it is absolutely necessary for the care of the patient and no other alternatives are available (i.e. bedpans, urinals, condom catheters, etc.)
- Every shift, assess continued need for foley and remove promptly if not needed
  - Examples of Appropriate Indications for indwelling urinary catheter:
    - Acute urinary retention or bladder outlet obstruction
    - Requires accurate measurement of urinary output
    - Perioperative use for certain surgical procedures
    - To assist in healing of open sacral or perineal wounds in incontinent patients
    - Prolonged immobilization
    - To improve comfort and end of life care if needed
    - Chronic indwelling catheters
    - Intragastric radicalation (requires new order POD 2)
  - Perform per catheter are every 8 hours and as needed
  - Prior to insertion, ensure excellent perineal care is performed
  - Maintain Stat Lock
  - Keep tubing free from kinks
  - Keep drainage bag below bladder, DO NOT place on floor
  - Empty bag frequently, ensuring it is never more than 2/3 full

- Root cause analysis completed by Infection Preventionist
- Presented in staff meetings by unit leader
5 Steps to Succeed

#2 - House-wide Aseptic Insertion Training
Insertion training

- Mandatory training for proper insertion of catheters
- Return demonstration completed with roving carts and at safety fairs
- Management support to get all staff signed off
- Added to new hire orientation
- Important to include ED and surgery where a large number of foleys are inserted
- 94% of all Neuro ICU RNs completed education within 6 weeks
CAUTI Team Steps to Succeed

#1 - Daily Assessments
Do we need the catheter?
What are the indications?
Daily rounding tool

Who attends rounds:
- Neuro Intensivist
- Charge RN
- Patient RN
- Neurosurgery CNP
- Pharmacy
- Therapies: RT, PT, OT, SLP
- Infection Preventionist
- Unit Leader
Teamwork

- Key is to be interdisciplinary
Changing the Culture

- **Team** evaluation of nursing practice/process

- Commonly stated reasons to keep Foleys:
  - “but they are vented”
  - “but they are on Lasix”
  - “but they will be incontinent and get a pressure sore”
  - “its just a UTI!”

- Challenging/Engaging the staff – **EVERYDAY**
Alternative Options to Foley

- Wicking pads
- Scales
- Condom catheters
- External Male collection devices
Lessons Learned

- We all **OWN** this: Nurses, Nursing Assistants, Physicians, and Infection Prevention, and more...
- Physician buy-in
- Bringing all the stakeholders – Executive Champions
- Don’t give up – keep at it
Arif M. Shaik MD, Director NeuroCritical Care,
United Hospital, MN
Breanne Rasmussen, RN, BSN

Thank you
Questions?
Special thanks to our partner Lake Superior Quality Innovation Network (QIN)

Stratis Health represents Minnesota in Lake Superior QIN

Contact Jill Kieser Andersen, RN, CPHQ, at 952-853-8565 or jkieser@stratishealth.org for more information on QIN hospital initiatives, including healthcare-associated infections

Learn more at www.lsqin.org