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Preventing catheter-associated
urinary tract infections:
The CAUTI Bundle



CAUTI

- Reduce and ultimately prevent cases of symptomatic CAUTI
- What is “symptomatic CAUTI”?
 - Infection-causing symptoms as defined by the CDC’s National Health Safety Network (NHSN) in the setting of an indwelling urinary catheter that is in place or has been removed within the past 48 hours

Why CAUTI?

- Most common healthcare-associated infection: 40% of all HAIs
 - > 1 million cases annually (hospitals & nursing homes)
- 12-25% of all hospitalised patients receive a urinary catheter
 - Half of these found to not have a valid indication

Potential Impact

- Increased length of stay 0.5 – 1 day
- Estimated cost per case of CAUTI

Evidence-Based Guidelines

- APIC CA-UTI Elimination Guide

www.apic.org/CAUTIGuide

- SHEA-IDSA Compendium

<http://www.shea-online.org/about/compendium.cfm>

- CDC Guideline

http://www.cdc.gov/ncidod/dhqp/gl_catheter_assoc.html#



Evidence of Success

- Numerous published studies reporting reductions in CAUTI rates of 48-81%
 - Use of reminders
 - Nurse-driven protocols
 - Reduction in duration of catheter days

“The duration of catheterisation is the most important risk factor for development of infection.”

SHEA-IDSA Compendium, October 2008

Preventing CAUTI

- Avoid unnecessary urinary catheters
- Insert using aseptic technique
- Maintain catheters based on recommended guidelines (daily care)
- Review catheter necessity daily and remove promptly

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Avoid unnecessary urinary catheters

- Studies:
 - 21% of catheters not indicated at insertion
 - 41-58% in place found to be unnecessary
- Catheters
 - Are uncomfortable for patients
 - Decrease mobility, which may impair recovery and contribute to other complications (e.g. pressure ulcers, deep vein thrombosis)



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Insert urinary catheters using aseptic technique

- Utilise appropriate hand hygiene practice
- Insert catheters using aseptic technique and sterile equipment, specifically using:
 - gloves, a drape, and sponges;
 - sterile or antiseptic solution for cleaning the urethral meatus; and
 - single-use packet of sterile lubricant jelly for insertion
- Use as small a catheter as possible that is consistent with proper drainage, to minimise urethral trauma.

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3. Maintain catheters based on recommended guidelines

- Maintain a sterile, continuous 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 collecting container for each patient, and avoid allowing the draining spigot to touch the collecting container
- Maintain meatal care with routine hygiene

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Daily review of necessity with prompt removal

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

- 74% of hospitals surveyed did not monitor catheter duration
- 47% of patient days had no justification for continued catheterisation
- 41% of the time, physicians were unaware of patients inappropriately catheterised



Measurement

Outcome Measure:

Urinary catheter-associated UTI rate

$$\frac{\text{\# Symptomatic CAUTI}^*}{\text{\# Urinary catheter days}} \times 1000$$

- * Infection-causing symptoms as defined by the NHSN in the setting of an indwelling urinary catheter that is in place or has been removed within the past 48 hours