Decreasing Post-Operative Bladder Retention Using Nurse-Driven Algorithms

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Background
Rehabilitative musculoskeletal patients average age is >= 75 years. Current available urinary track infection data is related to urinary catheter associated infections (CAUTI). Little tracking is available for non-catheter related urinary infections.

Problem:
This population is at high risk for anesthesia and subsequent inactivity, predisposing them to non-catheter related urinary tract infections (UTI).

Purpose
Early identification and management of bladder retention in all post-operative musculoskeletal patients in order to decrease the incidence of non-catheter associated urinary tract infection.

Investigation

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- All newly admitted postoperative patients (n=51) were monitored for bladder retention for the first 24-48 hours of admission (Jan.19-Feb.18, 2011)
- A bladder scan was performed following the initial void on admission and with each subsequent void for 24-48 hours from time of admission to determine trends.

Findings from initial investigation:
- 10% refused to participate
- 18% had no problems
- 23% identified to have bladder retention after 24 hours
- out of 51 patients, 18% had bladder retention >300mL

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Project Description

Assess:
- Remove indwelling catheter upon admission
- After 8 hours:
  - Using bladder scan, check post void residuals during the first 24-48 hours
  - If residual is greater than 300 mL:
    - Urinary Catheters are routinely discontinued on admission
    - Establish a toileting schedule and provide assistance/prompts and teaching to encourage urination.
    - If not voiding use bladder scan technology

Intervention:
- Administer meds as prescribed by GU physician
- Straight cath patient for post void residuals >300cc or as determined by GU physician
- Continue scanning PVRs until evidence of full bladder emptying is obtained

Bladder Protocol:
- If PVR is > 300 mL:
  - Catheter on admission.
  - Admitted with urethral cath.
  - Discontinue urethral cath.
  - Patient for post void residuals >300 mL monitored and recorded patient's volume every 4-8 hours and repeat scan every 4-8 hours until evidence of full bladder emptying is obtained.
  - If elevated PVR's persist, consult.
  - If retention present and continues past 48 hours, obtain a GU consult.
  - If no void persists, continue monitoring of PVRs until evidence of full bladder emptying is obtained.
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Future Plans

Our rehabilitation unit will initiate and develop a nursing protocol for management of post-operative patients with bladder retention hospital-wide.

Results

Although strategies for decreasing bladder retention are now fully implemented and are part of routine nursing practice on 4 West, we continue to:
- Collect Data on UTIs
- Monitor/ Sustain nursing practice behaviors

Confounders/Implications

- Some patients admitted to our unit are admitted from outside hospitals
- A certain percentage of these patients were admitted with antibiotic treatment for a urinary tract infection
- There is no information available at the time of admission as to the actual source of the infection although reports indicate them as urinary in nature
- Discrepancies in the definition of urinary tract infection exist regarding definition of UTI
- Fever, UA+ with elevated white blood cell count, >100,000
- OR
- UA+ with elevated white blood cell count, with or without fever
- Many geriatric patients do not present with fever, but may present with confusion, which is not captured in our current data