Patient Care Services

Policy Title: *Guideline for Prevention of Catheter-Associated Urinary Tract Infection for Adult Patients*

Policy Number:	**54**
Effective Date:	**03/2012**
Replaces:	**54, 02/2007**
Review Date:	**03/2015**

PURPOSE: To outline clinical decision-making for initiating, maintaining, and discontinuing indwelling catheter.

Supportive Data: The urinary tract is the most common site for hospital acquired infection. One of the most important infection prevention measures is to limit the use of the urinary catheter to carefully selected patients. Removing a catheter at the earliest possible point will minimize the risk for catheter-associated infections[1,2].

Population at Risk: All patients requiring indwelling catheterization are at risk for acquiring an urinary tract infection. However those individuals who are debilitated, of advanced age or are immune compromised tend to have a greater risk for catheter-associated urinary tract infections.

POLICY: All patients with indwelling catheters should be assessed for appropriateness on a daily basis.

Consider Alternatives:

Determine if lower risk alternative is appropriate for the patient[2]:

1. Intermittent straight catheterization with or without bladder ultrasound.
2. External condom catheters for males with intact voiding reflex and without outlet obstruction.
3. Incontinence management.

Pre-Catheterization: Use the following criteria to determine appropriateness for indwelling catheterization[1,2,3]:

1. Acute urinary retention or bladder obstruction, including medication induced.
2. Every 1-2 hourly urine output of critically ill patients whereby results influence plan of care/treatment. Is the catheter necessary to determine plan of care?
3. Selective peri-procedure use
   - Patient undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract.
   - Anticipated prolonged duration of procedure (catheters inserted for this reason should be removed in PACU or post-procedure)

- Patient anticipated to receive large-volume infusions or diuretics during procedure and/or need intra-procedure monitoring of urinary output

4. Patient requires prolonged immobilization (e.g., unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures).
5. Frequent urinary incontinence episodes in a patient with open wounds in or around the perineum resulting in interruption of therapy/multiple unanticipated dressing changes, when other interventions have been unsuccessful.
6. End of Life care as a comfort measure.

Catheterization and Maintenance:

Indwelling Catheter Insertion and Drainage[1]

1. Use smallest bore catheter consistent with good drainage.
2. Catheters are to be inserted using aseptic technique and sterile equipment.
3. Indwelling catheters are to be properly secured after insertion to prevent movement and urethral traction.
4. Sterile, continuously closed drainage system is to be maintained.
5. Keep urine flow unobstructed and the bag and tubing at a lower level than the bladder.
6. If breaks in aseptic technique, disconnection, or leakage occur, replace the collecting system after disinfecting the catheter-tubing junction.
7. Indwelling catheter **should not** be changed at arbitrary intervals.
8. Irrigation is to be avoided unless obstruction has occurred. Replacement of the catheter and drainage system should occur when the catheter itself is determined as the cause. In the event of hematuria and clotting, continuous bladder irrigation may be necessary.
9. If necessary, large-volume sterile syringe and irrigant may be used via aseptic technique then discard after each use.
10. Specimen collection should be aspirated with a sterile syringe from the disinfected sampling port.
11. Wash hands immediately before and after any manipulation of the catheter site or drainage system. Gloves are advocated and must be changed following the emptying procedure.
12. Avoid touching the end of the drain on the collection bag and

keep the drain clear of receptacles during the emptying procedure.

13. Avoid routine collection of urine cultures.

DEFINITIONS: **Post Void Residual:** Bladder volume obtained immediately following spontaneous void using the straight catheter technique.
Bladder Ultrasound: A non-invasive scan of the bladder which displays the amount of urine in the bladder at any given time.

MATERIALS and EQUIPMENT:
NA

PROCEDURE:

Minimizing Device Days: All patients should be assessed on a daily basis for the need to continue the indwelling catheter [3]:

KEY POINT:

a. If any of the conditions listed in the Pre-Catheterization Section are present, do not considered removal of indwelling catheters.

2. Discontinue catheter and start protocol per physician order or call physician for initiation of protocol.

3. Discontinue indwelling catheter per standard procedure.

4. If patient does not void within 4 hours a Bladder Ultrasound or PVR (post void residual) should be obtained.

KEY POINT:

a. Chart volume in the medical record.
b. If bladder volume post void or on ultrasound is **less than** 250 mL continue to monitor for spontaneous micturition every hour.
c. If bladder volume is **greater than** 250 mL initiate a straight catheter routine to keep total bladder volume less than 250 mL. Document in Physicians Progress Notes and appropriate medical record.
d. Repeat bladder scan every four hours. If volume is greater than 250 ml, perform straight cath. If less than 250 ml, continue to monitor every four hours.

5. If patient is spontaneously voiding, but incontinent and bladder volume remains below 250 mL, initiate incontinence management. Document in Physician Progress Notes and appropriate medical record.

RELATED DOCUMENTS:

Clinical Nursing Skills, Basic to Advanced Skills, Pearson Prentice Hall, Upper Saddle River, NJ 07458
Patient Care Policy and Procedure #48: Bladder Scanner
Physician Order Sets

KEY PROVIDERS:

Physicians, RNs, EMTs, Pas, NPCs

KEY REVIEWER/OWNER:

QM, QS, PPC Councils

STAKEHOLDERS:

Physicians, RNs, Patient Care Services, ER, OR, Infection Control

REVIEW DATE:

02/2015

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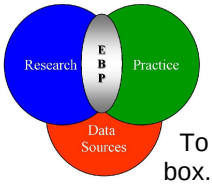

Evidence Sources

To promote evidence-based practice, each policy, procedure, and protocol will utilize a source box. The source box will list references used and the appropriate grade of evidence.

Level I - Meta-analysis of multiple controlled studies or randomized clinical trials, systematic reviews.
Level II - Individual experimental studies with randomization.
Level III - Quasi-experimental studies(no randomization or no control group) pre-post, cohort (observation over a defined period of time), time series, case controlled.
Level IV - Non-experimental studies-comparative, correlational, qualitative studies.
Level V - Quality improvement projects, research utilization, case reports.
Level VI- Opinions of respected authorities, expert committees.
Adopted from: Newhouse, 2007, Johns Hopkins Hospital & University of Colorado Hospital.

1. Wong, E. S. & Hooton, T.M. (February 1981, June, 2002, April 2005) *Guideline for Prevention of Catheter-Associated Urinary Tact Infections.* Center for Disease Control. Atlanta, Ga. **(EBPV)**
2. Saint, S. (2000). Clinical and economic consequences of Nosocomial catheter-related bacteriuria. *American Journal of Infection Control,* 28(1), 68-75. **(EBPI)**
3. Topol, J., Conklin, S., et al, (2005). Prevention of Nosocomial Catheter-Associated Urinary Tract Infections Through Computerized Feedback to Physicians and a Nurse-Directed Protocol, *American Journal Medical Quality*, 2005; 20:121-126 **(EBPIV)**
4. Healthcare Infection Control Practices Advisory Committee (HICPAC): Guideline for Prevention of Catheter-Associated Urinary Tract Infections 2009. Atlanta, Ga.: Centers for Disease Control & Prevention, 2009

Nursing Protocol for Indwelling Urinary Catheter Discontinuation(3)