Streamlined Evidence-Based RN Tool: Catheter Associated Urinary Tract Infection (CAUTI) Prevention

Nurse-Driven CAUTI Prevention: Saving Lives, Preventing Harm and Lowering Cost.

Key Practice Strategies to Reduce CAUTI: 1) Fewer Catheters Used, 2) Timely Removal and 3) Insertion, Maintenance and Post-Removal Care.


**BOX 1**

**CDC (2009) Criteria for Indwelling Urinary Catheter (IUC) Insertion:**

- Acute urinary retention (sudden and painful inability to urinate (SUNA, 2008)) or bladder outlet obstruction
- To improve comfort for end-of-life care if needed
- Critically ill and need for accurate measurements of I&O (e.g., hourly monitoring)
- Selected surgical procedures (GU surgery/colorectal surgery)
- To assist in healing open sacral or perineal wound in the incontinent patient
- Need for intraoperative monitoring of urinary output during surgery or large volumes of fluid or diuretics anticipated
- Prolonged immobilization (potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures)

**Does patient meet CDC Criteria?**

- **Insert IUC per Tool Checklist** (See page 2)
  - • Assess daily for meeting CDC Criteria for IUC (Follow nurse-driven removal protocol, if approved by the facility)
  - • Prevent CAUTI after IUC Insertion (See CDC IUC Maintenance Bullets, page 2)
  - • Assess for/report signs/symptoms of CAUTI (See facility protocol/procedure)

- **Do Not Insert IUC**
  - Assess urination and bladder emptying
    - Has patient urinated?
      - **Yes**
        - Patient has urinary incontinence? (inability to control urine flow)
          - **Yes**
            - • Develop individualized toileting plan with interdisciplinary input (e.g., prompted voiding, use of commode, use of gender-specific urinals) to regain continence.
            - • Use gender-appropriate collection device (e.g. external catheter, penile pouch/sheath (male) or urinary pouch (female) or absorbent products) to manage incontinence and maintain skin integrity.
          - **No**
            - Prompt patient to urinate.
            - If urination volume ≤ 180 ml, perform bladder scan.*
      - **No**
        - **Has patient urinated?**
          - **Yes**
            - Assess bladder emptying (See A below)
          - **No**
            - Prompt patient to urinate and evaluate results (See B below)

*Perform bladder scan (CDC, 2009) to determine PVR. If no scanner available, perform straight catheterization.

**Assess for Adequate Bladder Empting**

**A.** If Patient **HAS** urinated (voided) within 4-6 hours follow these guidelines:
  - • If minimum urinated volume ≤ 180 ml in 4-6 hours or urinary incontinence present, confirm bladder emptying.
    - Prompt patient to urinate/check for spontaneous urination within 2 hours if post-void residual (PVR) < 300-500 ml
      - Recheck PVR within 2 hours.*
    - Perform straight catheterization for PVR per scan ≥ 300-500 ml.
      - Repeat scan within 4-6 hours and determine need for straight catheterization.
      - Report to provider if retention persists ≥ 300-500ml.
    - Perform ongoing straight catheterization per facility protocol to prevent bladder overdistension and renal dysfunction (CDC, 2009), usually every 4-6 hours.
  - • If urinated >180 ml in 4-6 hours (adequate bladder emptying), use individual plan to promote/maintain normal urination pattern.

**B.** If Patient **HAS NOT** urinated within 4-6 hours and/or complains of bladder fullness, then determine presence of incomplete bladder emptying,*
  - • Prompt patient to urinate. If urination volume ≤ 180 ml, perform bladder scan.*

*Perform bladder scan (CDC, 2009) to determine PVR. If no scanner available, perform straight catheterization.
### Indwelling Urinary Catheter (IUC) Insertion Checklist to Prevent CAUTI in the Adult Hospitalized Patient: Important Evidence-Based Steps.

<table>
<thead>
<tr>
<th>Yes</th>
<th>Yes with Reminder</th>
<th>Comments</th>
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#### Before IUC insertion:

1) **Determine if IUC is appropriate per the CDC Guidelines** (CDC, 2009) (See page 1, Box 1).

2) **Select smallest appropriate IUC** (14 Fr., 5ml or 10 ml balloon is usually appropriate unless ordered otherwise).

3) **Obtain assistance PRN** (e.g., 2-person insertion, mechanical aids) **to facilitate appropriate visualization/insertion technique**.

4) **Perform hand hygiene**.

#### Patient Preparation/Insertion of IUC:

1) **Perform peri-care**, then, **re-perform hand hygiene**.

2) **Maintain strict aseptic technique throughout the actual IUC insertion procedure**, re-perform hand hygiene upon completion.
   - Use sterile gloves and equipment and establish/maintain sterile field.
   - Do not pre-inflate the balloon to test it, as this is not recommended.

3) **Insert IUC to appropriate length and check urine flow before balloon inflation to prevent urethral trauma**.
   - In males, insert fully to the IUC “y” connection, or in females, advance ~1 inch or 2.5 cm beyond point of urine flow.

4) **Inflate IUC balloon correctly**: Inflate to 10 ml for catheters labeled 5 ml or 10 ml per manufacturer’s instructions.

#### After IUC insertion completion:

1) **Perform Triple Action for IUC/Drainage System**:
   - Secure IUC to prevent urethral irritation.
   - Position drainage bag below the bladder (but not resting on the floor).
   - Check system for closed connections and no obstructions/kinks.

#### Maintenance of IUC/Drainage System and Other Patient Care to Prevent CAUTI (CDC 2009)

<table>
<thead>
<tr>
<th>Maintain appropriate catheter securement per facility protocol/procedure and the drainage bag below the level of the bladder at all times (but not on the floor, even when emptying).</th>
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<tbody>
<tr>
<td>Empty the drainage bag regularly using a separate, clean collecting container for each patient; avoid splashing, and prevent contact of the drainage spout.</td>
</tr>
<tr>
<td>Maintain unobstructed urine flow by keeping the catheter and tube free from kinking.</td>
</tr>
<tr>
<td>Maintain a closed drainage system.</td>
</tr>
<tr>
<td>If breaks in the closed system are noted (e.g., disconnection, cracked tubing), replace the catheter and collecting system following above IUC insertion checklist.</td>
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<td>Perform perineal hygiene at a minimum, daily per facility protocol/procedure and PRN.</td>
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<tr>
<td>Use timely fecal containment device when appropriate for fecal incontinence.</td>
</tr>
<tr>
<td>Teach nursing assistants and patient/family iuc maintenance.</td>
</tr>
</tbody>
</table>

### Notes:
- Refer to Expert Nurse for consults (e.g., urology, WOC, infection control, geriatrics, rehabilitation) and other team members per facility protocol to reduce iuc use and days and to manage complex care (e.g., incontinence, immobility).
- **Box 2**

**References**


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**ANA**

American Nurses Association

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