Indwelling Urinary Catheter Indications

Avoiding Placement and Determining Appropriateness
Lifecycle of a Urinary Catheter

1. Catheter Placement
2. Indwelling Urinary Catheter
3. Maintenance Care of Urinary Catheter

Disrupting the Lifecycle of a Urinary Catheter

Step 0: AVOID INDWELLING CATHETER

Ensure Aseptic Placement

1. Indwelling Urinary Catheter

2. Maintain Awareness and Proper Care of Catheters in Place

3. Prompt Removal of Unnecessary Catheters

Using Appropriateness Criteria To Reduce Catheter Use\textsuperscript{1,2}

**Step 0:**
**AVOID INDWELLING CATHETER**

Place urinary catheter only when appropriate

Optimize use of alternatives

**Indwelling Urinary Catheter**

Ensure Aseptic Placement

1

Maintain Awareness and Proper Care of Catheters in Place

2

Prompt Removal of Unnecessary Catheters

3

Reminders/stop orders use appropriateness criteria to prompt catheter removal

Daily review of continued need for urinary catheter
Team Strategies Are Needed To Reduce Inappropriate Urinary Catheter Use

- Develop a “shared mental model” between nurses and physicians
- Recruit (not assign) an ICU nurse and physician as bedside champions to lead the project
- Consider your post removal protocol for use in preventing inappropriate catheters from being inserted
- Develop programs and education for the emergency department and operating room areas to reduce unnecessary insertions
- Develop a communication workflow for prompting catheter removal by default in your unit when no longer appropriate
## Examples of Indications for Urinary Catheters

<table>
<thead>
<tr>
<th>Example Indications</th>
<th>2009 HICPAC Guidelines</th>
<th>American Nurses Association’s Streamlined Evidence-Based RN Tool: CAUTI Prevention</th>
<th>Ann Arbor Criteria for Appropriate Urinary Catheter Use in Hospitalized Medical Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Acute urinary retention/obstruction</td>
<td>• Acute urinary retention/obstruction</td>
<td>• Indwelling catheters are appropriate for measuring and collecting urine only when fluid status or urine CANNOT be assessed by other means.</td>
<td></td>
</tr>
<tr>
<td>• Perioperative use for selected surgeries</td>
<td>• Perioperative use for selected surgeries</td>
<td>• Location in an ICU alone is NOT an appropriate indication.</td>
<td></td>
</tr>
<tr>
<td>• To assist with healing of open wounds in incontinent patients</td>
<td>• To assist with healing of open wounds in incontinent patients</td>
<td>• Criteria for 3 catheter types: indwelling, external and intermittent use catheters</td>
<td></td>
</tr>
<tr>
<td>• End-of-life care</td>
<td>• End-of-life care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Accurate measurement of urinary output in critically ill patients</td>
<td>• Critically ill and need for accurate measurements of I&amp;O (e.g., hourly monitoring)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>• Appropriate use in critically ill patients has varied interpretations</td>
<td>• Helpful algorithm to make decisions</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Based on 2009 Guidelines</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Use in critically ill patients still ambiguous</td>
<td></td>
</tr>
</tbody>
</table>

AHRQ Safety Program for ICUs: Preventing CLABSI and CAUTI
Ms. Johnson is a 45-year-old previously healthy woman who was admitted to the ICU with severe sepsis, requiring aggressive intravenous fluid resuscitation and vasopressor therapy. Does she need an indwelling urinary catheter (commonly known as a Foley catheter)?

A. Yes, indwelling urinary catheter because admitted to the ICU

B. Yes, because hourly urine output is being used to guide fluid resuscitation and vasopressor dose

C. No, because has no history of incontinence

D. No, as long as is able to urinate by other means
Mr. Grant is a 66-year-old man who was admitted from the ED to the ICU with a severe chronic obstructive pulmonary disease exacerbation requiring bilevel positive airway pressure. Does he need an indwelling urinary catheter?

A. Yes, indwelling urinary catheter because admitted to the ICU
B. Yes, because hourly urine output is being used to guide fluid resuscitation and vasopressor dose
C. No, because has no history of incontinence
D. No, as long as is able to urinate by other means

Disclaimer: All case studies are hypothetical and not based on any actual patient or hospital information. Any similarity between a case study and actual patient or hospital experience is purely coincidental.
# Catheter Appropriateness for Measuring Urine Volume

## IS THIS METHOD OF URINE COLLECTION APPROPRIATE?

<table>
<thead>
<tr>
<th></th>
<th>Indwelling Urinary Catheter</th>
<th>Intermittent Straight Catheter (ISC)</th>
<th>External Catheter</th>
<th>Non-Catheter Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hourly urine volume is required to provide treatment.</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Daily (not hourly) urine volume is required to guide treatment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is INAPPROPRIATE to use a urinary catheter simply because a patient is being cared for in an ICU.

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Which types of patients do nurses and physicians in your ICU agree do NOT require an indwelling urinary catheter?

- Patients admitted to ICU, but without an illness for which hourly urine output guides care
- Patients who have stabilized—no longer tenuous status
- “Floor status” patients—located in ICU but awaiting availability of non-ICU bed
- Patients with very little urine output for days—none to measure
Is the indwelling urinary catheter still appropriate for your ICU patient?

- If the patient does **NOT** have one of the following five criteria, **remove the indwelling urinary catheter**.

- **These criteria can be found on the [ICU Daily Checklist for Indwelling Urinary Catheter Use](#) (Figure 4 in link)**
1. What is the urine volume measurement need?

A. Is **HOURLY** urine volume measurement being used to inform and provide treatment?

B. Is **DAILY** /Shift urine volume measurement being used to provide treatment AND volume status CANNOT be adequately assessed by daily weight or urine collection by urinal, commode, bedpan, or external catheter?
2. Does the patient have a urologic problem that is being treated by an indwelling urinary catheter?

*Examples:*

- Urinary retention that cannot be monitored or addressed by bladder scanner/intermittent straight catheter (ISC) or that has failed the pre-insertion protocol
- Anticipated urinary retention due to paralytic meds
- Recent urologic or gynecologic diagnosis or procedure for which catheter removal is not yet recommended
Checklist Question 3

3. Urine sample that CANNOT be collected by other method such as urinal, external catheter, or ISC

<table>
<thead>
<tr>
<th>Sample Type?</th>
<th>Use Indwelling Urinary Catheter?</th>
<th>Use ISC?</th>
<th>Use External Catheter?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sterile sample for urine culture</td>
<td><strong>No</strong></td>
<td><strong>YES</strong></td>
<td><strong>YES</strong>, if staff trained for sterile application</td>
</tr>
<tr>
<td>Nonsterile urine sample</td>
<td><strong>No</strong></td>
<td><strong>YES</strong></td>
<td><strong>YES</strong></td>
</tr>
<tr>
<td>24-hour sample</td>
<td><strong>YES</strong></td>
<td><strong>YES</strong>, if all urine can be collected by ISC</td>
<td><strong>YES</strong>, preferred option in cooperative men</td>
</tr>
<tr>
<td>Post-void residual measurement</td>
<td><strong>No</strong></td>
<td><strong>No</strong>, unless cannot be assessed by bladder scanner</td>
<td><strong>No</strong></td>
</tr>
</tbody>
</table>

4. Does the patient have urinary incontinence that cannot be addressed by non-catheter methods (e.g., barrier creams, incontinence absorbent products) because nurses CANNOT turn and provide skin care with available resources (e.g., lift teams, lift machines) or transition to external catheter for cooperative patients?
5. Is the indwelling urinary catheter providing comfort from severe distress related to urinary management that cannot be addressed by non-catheter option, ISC, or external catheter?

Examples:

- Difficulty voiding due to severe dyspnea with position changes needed to manage urine without catheter
- Address patient/family goals in dying patient
- Acute/severe pain upon movement with demonstrated difficulties using other urinary management strategies
Mr. Knight is a 25-year-old man who was admitted with acute urinary retention, due to spinal injury. **Which urinary catheter strategies are appropriate?**

A. Indwelling urinary catheter
B. ISC, “In and Out”
C. External catheter
D. Urinal or incontinence garments

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## Acute Urinary Retention

<table>
<thead>
<tr>
<th>Indwelling Urinary Catheter</th>
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<th>External Catheter</th>
<th>Non-Catheter Options</th>
</tr>
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<tbody>
<tr>
<td><strong>Acute retention WITHOUT bladder outlet obstruction</strong></td>
<td><strong>YES</strong></td>
<td><strong>YES</strong>, if bladder can be emptied by 4–6 hour ISC</td>
<td><strong>NO</strong> †</td>
</tr>
<tr>
<td><strong>Acute retention WITH bladder outlet obstruction</strong></td>
<td>Appropriateness varies by reason for obstruction §</td>
<td>Appropriateness varies by reason for obstruction §</td>
<td><strong>NO</strong> †</td>
</tr>
</tbody>
</table>

† External catheters collect urine released by the bladder, and cannot address urinary retention
‡ Use a bladder scanner to reduce number of catheterizations when no or little urine is seen in bladder
§ Consider urology consultation for prostatitis and urethral trauma, because may be better managed with suprapubic, or expert placement of catheter.

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Mrs. Davies is an 80-year-old woman, admitted with syncope and awaiting pacemaker placement, who is admitted to ICU for a higher level of monitoring and nursing care than available outside the ICU. She has chronic urinary incontinence and is a high fall risk.

True or False:

The ICU nurse should insert an indwelling urinary catheter for Mrs. Davies because it will prevent skin breakdown and reduce her risk of falling.

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## Managing Incontinence:
No Skin Issue, No Difficulty Turning

<table>
<thead>
<tr>
<th>IS THIS METHOD OF URINE COLLECTION APPROPRIATE?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indwelling Urinary Catheter</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Incontinence (no skin issue), nurses can turn/provide skin care</strong></td>
</tr>
<tr>
<td><strong>Incontinence, can be turned, patient requests catheter</strong></td>
</tr>
</tbody>
</table>


AHRQ Safety Program for ICUs: Preventing CLABSI and CAUTI
## Managing Incontinence: No Skin Issue, With Difficulty Turning

### IS THIS METHOD OF URINE COLLECTION APPROPRIATE?

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>Indwelling Urinary Catheter</th>
<th>Intermittent Straight Catheter (ISC)</th>
<th>External Catheter</th>
<th>Non-Catheter Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excess weight (&gt;300 pounds) from obesity or edema</strong></td>
<td><strong>YES</strong></td>
<td><strong>No, unless has chronic ISC needs</strong></td>
<td><strong>YES</strong></td>
<td>Barrier creams, prompted toileting, etc.</td>
</tr>
<tr>
<td><strong>Turning causes hemodynamic or respiratory instability</strong></td>
<td><strong>YES</strong></td>
<td><strong>No, unless has chronic ISC needs</strong></td>
<td><strong>YES</strong></td>
<td>Barrier creams, prompted toileting, etc.</td>
</tr>
<tr>
<td><strong>Strict temporary immobility post-op from vascular procedure</strong></td>
<td><strong>YES</strong></td>
<td><strong>YES</strong></td>
<td><strong>YES</strong></td>
<td>Barrier creams, prompted toileting, etc.</td>
</tr>
</tbody>
</table>

### Managing Incontinence: When Patient has Skin Issues

#### Is This Method of Urine Collection Appropriate?

<table>
<thead>
<tr>
<th></th>
<th>Indwelling Urinary Catheter</th>
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<th>Non-Catheter Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incontinence-associated dermatitis</td>
<td>No</td>
<td>No, unless has chronic ISC needs</td>
<td>Yes, if severe, otherwise uncertain</td>
<td>Barrier creams, prompted toileting, etc.</td>
</tr>
<tr>
<td>Closed pressure ulcers: stage I, deep tissue injury</td>
<td>No</td>
<td>No, unless has chronic ISC needs</td>
<td>Yes, if the patient is unable to toilet using other means, bedpan, bedside commode, bathroom</td>
<td>Barrier creams, prompted toileting, etc.</td>
</tr>
<tr>
<td>Open pressure ulcers: stage II</td>
<td>Uncertain</td>
<td>YES</td>
<td>Yes, if the patient is unable to toilet using other means, bedpan, bedside commode, bathroom</td>
<td>All†</td>
</tr>
<tr>
<td>Open pressure ulcers: stages III-IV, unstageable</td>
<td>YES</td>
<td>YES, if ISC adequate to manage the incontinence</td>
<td>YES</td>
<td>All†</td>
</tr>
</tbody>
</table>

Note: All non-catheter options are appropriate if they would not worsen the ulcer due to location.

Take-Home Points

• ICU bed assignment alone is not sufficient indication for an indwelling urinary catheter – patient must have a medical indication for the catheter.

• Urology consultation may be needed for certain types of acute urinary retention with obstruction.

• Not all open sacral/hip wounds require an indwelling urinary catheter if the wound can be kept clean by other methods.

• Use alternatives to indwelling urinary catheters whenever appropriate.
References


