



Update on CA-UTI Prevention Guidelines: Preliminary Recommendations

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Main Questions

- Q1. Who should receive urinary catheters?
- Q2. For those who may require urinary catheters, what are the best practices?
- Q3. What are the best methods to manage urinary catheter-associated complications?



CA-UTI outcome categories in grade tables

- Symptomatic UTI
- Bacteriuria
- Bacteriuria/Unspecified UTI



Q1. Who should receive urinary catheters?

A. Is urinary catheterization necessary?

- *Operative patients*
- *Incontinent patients*
- *Patients with bladder outlet obstruction*
- *Spinal cord injury patients*
- *Children with myelomeningocele*

B. What are the risk factors for CA-UTI?

C. What populations are at highest risk of mortality from catheters?



Q1A. Is urinary catheterization necessary?

Operative patients

- Use urinary catheters in operative patients only as necessary, rather than routinely, weighing the risks of infection, the risks of urinary retention, and the need for intraoperative catheterization.
(Category II)



Q1A. Continued

Incontinent patients

- Avoid urinary catheterization of patients and nursing home residents for management of incontinence. (Category II)
 - Further study is needed on periodic use of condom catheters in this population and the use of catheters to prevent skin breakdown. (No recommendation/unresolved issue)



Q1A. Continued



Bladder outlet obstruction

- Further study is needed on the benefit of using a urethral stent as an alternative to an indwelling catheter in selected patients with bladder outlet obstruction. (No recommendation/ unresolved issue)



Q1A. Continued



Spinal cord injury patients

- Use alternative urinary drainage strategies to chronic indwelling urinary catheters in spinal cord injury patients whenever possible. (Category II)



Q1A. Continued



Children with myelomeningocele

- Use clean intermittent catheterization in children with myelomeningocele and neurogenic bladder to reduce the risk of urinary tract deterioration.
(Category II)



Q1B. What are the risk factors for CA-UTI?

- Maintain a sterile, continuously closed drainage system. (Category IA)*
- Do not disconnect the catheter and urinary drainage system unless the catheter must be irrigated. (Category IA)*
- Leave catheters in place only as long as needed for appropriate indications. (Category IA)*

**More data under Q2*



Q1B. Continued

- Minimize urinary catheter use and duration of use in patients at higher risk for CA-UTI such as women, the elderly, and patients with impaired immunity, higher severity of illness, diabetes, renal dysfunction, and incontinence. (Category II)
- Ensure that only properly trained personnel insert urinary catheters using correct aseptic technique. (Category II)*

**More data under Q2*



Q1C. What populations are at highest risk of mortality from urinary catheters?

- Minimize urinary catheter use and duration in patients who may be at higher risk for mortality due to catheterization, such as the elderly and patients with higher severity of illness. (Category II)



Q2. For those who may require urinary catheters, what are the best practices?

A. What are the risks and benefits associated with different approaches to catheterization?

- *Condom vs. indwelling*
- *Intermittent vs. indwelling urethral*
- *Intermittent vs. suprapubic*
- *Suprapubic vs. indwelling urethral*
- *Clean intermittent vs. sterile intermittent*



Q2A. What are the risks and benefits associated with different approaches to catheterization?

Condom vs. indwelling catheters

- Condom catheter drainage is preferable to an indwelling urethral catheter in cooperative male patients without urinary retention or bladder outlet obstruction. (Category IB)



Q2A. Continued

Intermittent vs. indwelling urethral catheters

Intermittent vs. suprapubic catheters

- Intermittent catheterization is preferable to an indwelling urethral or suprapubic catheter in selected patients with bladder emptying dysfunction. (Category II)
 - Intermittent catheterization should be performed at regular intervals to prevent urinary retention. (Category II)
 - For operative patients who have an indication for an indwelling catheter, remove the catheter as soon as possible post-operatively, preferably within 24 hours. (Category II)*

**More data in Q2C*



Q2A. Continued

Suprapubic vs. indwelling urethral catheters

- Further study is needed on the risks and benefits of suprapubic catheters as an alternative to indwelling urethral catheters in selected patients requiring short or long-term catheterization, particularly with respect to patient preference and complications related to catheter insertion or the catheter site. (No recommendation/unresolved issue)



Q2A. Continued

Clean intermittent vs. sterile intermittent catheterization

- Clean intermittent catheterization is an acceptable and more practical alternative to sterile intermittent catheterization for patients requiring chronic intermittent catheterization. (Category IB)



Q2. For those who may require urinary catheters, what are the best practices?

B. What are the risks and benefits associated with different catheters or collecting systems?

- *Silver-coated vs. standard catheters*
- *Antibiotic-coated vs. standard catheters*
- *Hydrophilic vs. standard catheters*
- *Closed vs. open drainage systems*
- *Complex vs. simple drainage systems*
- *Preconnected/sealed junction catheters vs. standard*
- *Catheter valves vs. drainage bags*



Q2B. What are the risks and benefits associated with different catheters or collecting systems?

Silver-coated vs. standard catheters

Antibiotic-coated vs. standard catheters

- Further study is needed on the benefit of antimicrobial (silver alloy- or antibiotic-coated) catheters compared to standard silicone-based catheters in reducing the risk of clinically significant CA-UTI events. (No recommendation/unresolved issue)



Q2B. Continued

Hydrophilic vs. standard catheters

- Hydrophilic catheters are preferable to standard catheters for patients requiring intermittent catheterization. (Category II)



Q2B. Continued

Closed vs. open drainage systems

- Maintain a sterile, continuously closed drainage system. (Category IA)



Q2B. Continued

Complex vs. simple drainage systems

- Complex urinary drainage systems are not needed as a routine prevention measure for CA-UTI.
(Category II)



Q2B. Continued

Preconnected/sealed junction catheters vs. standard catheters

- The use of urinary catheters with preconnected sealed junctions is a useful adjunct measure to reduce the risk of disconnection of the sterile, closed drainage system. (Category II)



Q2B. Continued

Catheter valves vs. drainage bags

- Further study is needed to clarify the benefit of catheter valves in reducing the risk of CA-UTI and other urinary complications as well as the appropriate patient population for this device. (No recommendation/unresolved issue)

Q2. For those who may require urinary catheters, what are the best practices?

C. What are the risks and benefits associated with different catheter management techniques?

- *Antibiotic prophylaxis*
- *Bladder irrigation*
- *Antiseptic instillation in drainage bag*
- *Local skin care*
- *Frequency of catheter or bag change*



Q2C. Continued

C. What are the risks and benefits associated with different catheter management techniques?

- *Catheter lubricants*
- *Securing devices*
- *Bacterial interference*
- *Clamping vs. free drainage*
- *Duration of catheterization for short-term drainage*
- *Portable ultrasound to assess bladder volume*
- *Catheter cleansing procedures*



Q2. For those who may require urinary catheters, what are the best practices?

D. What are the risks and benefits associated with different systems changes?

- *Mixed infection control/quality improvement programs*
- *Reminders*
- *Bacteriologic monitoring*
- *Hand hygiene*
- *Isolation*
- *Catheter team*
- *Feedback*
- *Nurse-directed catheter removal*



Q3. What are the best methods to manage urinary catheter-associated complications?

A. What are the best methods to manage an obstructed urinary catheter?



- Implementation and audit
- Recommendations for further research



More to come...

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