



IV. Recommendations for Further Research

CATHETER-ASSOCIATED URINARY TRACT INFECTIONS (CAUTI) PREVENTION GUIDEL
PAGE 7 of 12 | [ALL PAGES](#) ↓

Guideline for Prevention of Catheter-Associated Urinary Tract Infections (2009)

AT A GLANCE

Recommendations for Further Research from the Guideline for Prevention of Catheter-Associated Urinary Tract Infections (2009).

Recommendations for further research

Our literature review revealed that many of the studies addressing strategies to prevent CAUTI were not of sufficient quality to allow firm conclusions regarding the benefit of certain interventions. Future studies of CAUTI prevention should:

1. Be primary analytic research (i.e. systematic reviews, meta-analyses, interventional studies, and observational studies [cohort, case-control, analytic cross-sectional studies])
2. Evaluate clinically relevant outcomes (e.g., SUTI, bloodstream infections secondary to CAUTI)
3. Adjust for confounders as needed using multivariable analyses
4. Stratify outcomes by patient populations at risk for CAUTI
5. Ensure adequate statistical power to detect differences

The following is a compilation of recommendations for further research:

1. Catheter materials
 - a. Antimicrobial and antiseptic-impregnated catheters
 - i. Effect of catheters on reducing the risk of SUTI and other clinically significant outcomes
 - ii. Patient populations most likely to benefit
 - iii. Incidence of antimicrobial resistance in urinary pathogens
 - iv. Role of bacterial biofilms in the pathogenesis of CAUTI
 - b. Standard catheters
 - i. Optimal materials for reducing the risk of CAUTI and other urethral complications
2. Appropriate urinary catheter use
 - a. Incontinent patients
 - i. Risks and benefits of periodic (e.g., nighttime) use of external catheters
 - ii. Risk of local complications (e.g., skin maceration, phimosis) with the use of external catheters
 - iii. Appropriate use of urinary catheters to manage sacral or perineal wounds

- b. Appropriate indications for continued use in postoperative patients and associated risks

3. Antiseptics

- a. Use of antiseptic vs. sterile solutions for periurethral cleaning prior to catheter insertion
- b. Use of antiseptics (e.g., methenamine) to prevent CAUTI

4. Alternatives to indwelling urethral catheters and bag drainage

- a. Risks and benefits of suprapubic catheters as an alternative to chronic indwelling urethral catheters
- b. Use of a urethral stent as an alternative to an indwelling catheter in selected patients with bladder outlet obstruction
- c. Use of catheter valves in reducing the risk of CAUTI and other urinary complications
- d. Other alternative methods of urinary drainage

5. Optimal methods for preventing encrustation in long-term catheterized patients who have frequent obstruction

- a. Optimal catheter materials
- b. Irrigation with acidifying solutions or oral urease inhibitors
- c. Use of methenamine

6. Other prevention measures

- a. Use of portable ultrasound in patients with low-urine output to reduce unnecessary catheter insertions or irrigations (in catheterized patients)
- b. Use of new prevention strategies such as bacterial interference in patients requiring chronic catheterization
- c. Optimal cleaning and storage procedures (e.g., wet vs. dry storage) for catheters used for clean intermittent catheterization

7. Prevention of transmission

- a. Spatial separation of patients with urinary catheters (in the absence of epidemic spread or frequent cross-infection) to prevent transmission of pathogens colonizing urinary drainage systems

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Background



TABLE OF CONTENTS
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