



I. Executive Summary

CATHETER-ASSOCIATED URINARY TRACT INFECTIONS (CAUTI) PREVENTION GUIDELINE
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Guideline for Prevention of Catheter-Associated Urinary Tract Infections (2009)

WHAT TO KNOW

This guideline updates and expands the original Centers for Disease Control and Prevention (CDC) Guideline for Prevention of Catheter-associated Urinary Tract Infections (CAUTI) published in 1981.

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[Summary](#)

Summary

Several developments necessitated revision of the 1981 guideline, including new research and technological advancements for preventing CAUTI, increasing need to address patients in non-acute care settings and patients requiring long-term urinary catheterization, and greater emphasis on prevention initiatives as well as better defined goals and metrics for outcomes and process measures. In addition to updating the previous guideline, this revised guideline reviews the available evidence on CAUTI prevention for patients requiring chronic indwelling catheters and individuals who can be managed with alternative methods of urinary drainage (e.g., intermittent catheterization). The revised guideline also includes specific recommendations for implementation, performance measurement, and surveillance. Although the general principles of CAUTI prevention have not changed from the previous version, the revised guideline provides clarification and more specific guidance based on a defined, systematic review of the literature through July 2007. For areas where knowledge gaps exist, recommendations for further research are listed. Finally, the revised guideline outlines high-priority recommendations for CAUTI prevention in order to offer guidance for implementation.

This document is intended for use by infection prevention staff, healthcare epidemiologists, healthcare administrators, nurses, other healthcare providers, and persons responsible for developing, implementing, and evaluating infection prevention and control programs for healthcare settings across the continuum of care. The guideline can also be used as a resource for societies or organizations that wish to develop more detailed implementation guidance for prevention of CAUTI.

Our goal was to develop a guideline based on a targeted systematic review of the best available evidence, with explicit links between the evidence and recommendations. To accomplish this, we used an adapted GRADE system approach for evaluating quality of evidence and determining strength of recommendations. The methodology, structure, and components of this guideline are approved by HICPAC and will be used for subsequent guidelines issued by HICPAC. A more detailed description of our approach is available in the **Methods** section.

To evaluate the evidence on preventing CAUTI, we examined data addressing three key questions and related subquestions:

1. Who should receive urinary catheters?
 - a. When is urinary catheterization necessary?
 - b. What are the risk factors for CAUTI?
 - c. What populations are at highest risk of mortality related to urinary catheters?
2. For those who may require urinary catheters, what are the best practices? Specifically, what are the risks and benefits associated with:
 - a. Different approaches to catheterization?
 - b. Different catheters or collecting systems?

- c. Different catheter management techniques?
- d. Different systems interventions (i.e., quality improvement programs)?

3. What are the best practices for preventing CAUTI associated with obstructed urinary catheters?

Evidence addressing the key questions was used to formulate recommendations, and explicit links between the evidence and recommendations are available in the **Evidence Review** in the body of the guideline and Evidence Tables and GRADE Tables in the **Appendices**. *It is important to note that Category I recommendations are all considered strong recommendations and should be equally implemented*; it is only the *quality* of the evidence underlying the recommendation that distinguishes between levels A and B. Category IC recommendations are required by state or federal regulation and may have any level of supporting evidence.

The categorization scheme used in this guideline is presented in Table 1 in the **Summary of Recommendations** and described further in the **Methods** section.

The Summary of Recommendations is organized as follows:

1. recommendations for who should receive indwelling urinary catheters (or, for certain populations, alternatives to indwelling catheters);
2. recommendations for catheter insertion;
3. recommendations for catheter maintenance;
4. quality improvement programs to achieve appropriate placement, care, and removal of catheters;
5. administrative infrastructure required; and
6. surveillance strategies.

The **Implementation and Audit** section includes a prioritization of recommendations (i.e., high-priority recommendations that are essential for every healthcare facility), organized by modules, in order to provide facilities more guidance on implementation of these guidelines. A list of recommended performance measures that can potentially be used for internal reporting purposes is also included.

Areas in need of further research identified during the evidence review are outlined in the **Recommendations for Further Research**. This section includes guidance for specific methodological approaches that should be used in future studies.

Readers who wish to examine the primary evidence underlying the recommendations are referred to the **Evidence Review** in the body of the guideline, and the Evidence Tables and GRADE Tables in the Appendices. The Evidence Review includes narrative summaries of the data presented in the Evidence Tables and GRADE Tables. The Evidence Tables include all study-level data used in the guideline, and the GRADE Tables assess the overall quality of evidence for each question. The Appendices also contain a clearly delineated search strategy that will be used for periodic updates to ensure that the guideline remains a timely resource as new information becomes available.

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Summary of Recommendations

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CONTENT SOURCE:
[National Center for Emerging and Zoonotic Infectious Diseases \(NCEZID\)](#)

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