

III. Implementation and Audit

Prioritization of Recommendations

In this section, the recommendations considered essential for *all* healthcare facilities caring for patients requiring urinary catheterization are organized into modules in order to provide more guidance to facilities on implementation of these guidelines. The high-priority recommendations were chosen by a consensus of experts based on strength of recommendation as well as on the likely impact of the strategy in preventing CAUTI. The administrative functions and infrastructure listed above in the summary of recommendations are necessary to accomplish the high priority recommendations and are therefore critical to the success of a prevention program. In addition, quality improvement programs should be implemented as an active approach to accomplishing these recommendations and when process and outcome measure goals are not being met based on internal reporting.

Priority Recommendations for Appropriate Urinary Catheter Use (Module 1)

- Insert catheters only for appropriate indications (see Table 2), and leave in place only as long as needed. **(Category IB)**
 - Avoid use of urinary catheters in patients and nursing home residents for management of incontinence. **(Category IB)**
 - For operative patients who have an indication for an indwelling catheter, remove the catheter as soon as possible postoperatively, preferably within 24 hours, unless there are appropriate indications for continued use. **(Category IB)**

Priority Recommendations for Aseptic Insertion of Urinary Catheters (Module 2)

- Ensure that only properly trained persons (e.g., hospital personnel, family members, or patients themselves) who know the correct technique of aseptic catheter insertion and maintenance are given this responsibility. **(Category IB)**
- In the acute care hospital setting, insert catheters using aseptic technique and sterile equipment. **(Category IB)**

Priority Recommendations for Proper Urinary Catheter Maintenance (Module 3)

- Following aseptic insertion of the urinary catheter, maintain a closed drainage system **(Category IB)**
- Maintain unobstructed urine flow. **(Category IB)**

Performance Measures

- A. Internal Reporting. Consider reporting both process and outcome measures to senior administrative, medical, and nursing leadership and clinicians who care for patients at risk for CAUTI. **(Category II)**
 1. Examples of process measures:
 - a) Compliance with educational program: Calculate percent of personnel who have proper training:
 - Numerator: number of personnel who insert urinary catheters and who have proper training
 - Denominator: number of personnel who insert urinary catheters
 - Standardization factor: 100 (i.e., multiply by 100 so that measure is expressed as a percentage)

- b) Compliance with documentation of catheter insertion and removal dates: Conduct random audits of selected units and calculate compliance rate:
 - Numerator: number of patients on unit with catheters with proper documentation of insertion and removal dates
 - Denominator: number of patients on the unit with a catheter in place at some point during admission
 - Standardization factor: 100 (i.e., multiply by 100 so that measure is expressed as a percentage)
 - c) Compliance with documentation of indication for catheter placement: Conduct random audits of selected units and calculate compliance rate
 - Numerator: number of patients on unit with catheters with proper documentation of indication
 - Denominator: number of patients on the unit with catheter in place
 - Standardization factor: 100 (i.e., multiply by 100 so that measure is expressed as a percentage)
2. Recommended outcome measures:
- a) Rates of CAUTI: Use NHSN definitions (see <http://www.cdc.gov/nhsn/library.html>). Measurement of rates allows an individual facility to gauge the longitudinal impact of implementation of prevention strategies:
 - Numerator: number of CAUTIs in each location monitored
 - Denominator: total number of urinary catheter-days for all patients that have an indwelling urinary catheter in each location monitored
 - Standardization factor: Multiply by 1000 so that the measure is expressed as cases per 1000 catheter-days
 - b) Rate of bloodstream infections secondary to CAUTI: Use NHSN definitions for laboratory-confirmed bloodstream infection, available at <http://www.cdc.gov/nhsn/library.html>.
 - Numerator: number of episodes of bloodstream infections secondary to CAUTI
 - Denominator: total number of urinary catheter-days for all patients that have an indwelling urinary catheter in each location monitored
 - Standardization factor: Multiply by 1000 so that the measure is expressed as cases per 1000 catheter-days
- B. External Reporting. Current NHSN definitions for CAUTI were developed for monitoring of rates within a facility; however, reporting of CAUTI rates for facility-to-facility comparison might be requested by state requirements and external quality initiatives.