

# Minimizing CAUTI Risk Through Implementation of a Team-generated Nurse-directed Protocol

## The Problem

- Catheter-associated urinary tract infections (CAUTIs) are the most common healthcare-associated infection.
- Patients with an indwelling urinary catheter (IUC) have a 5-7% risk of acquiring CAUTI *each day* the catheter is in place.
- At BIDMC, CAUTI rates and the IUC device utilization ratio (DUR, a measure of how frequently IUCs are used) in intensive care units (ICUs) are both worse than national benchmarks, despite interventions to date.
- Interventions have included: education regarding aseptic catheter insertion; evaluation of appropriate catheter maintenance; and daily order for IUCs.
- A reduction in DUR would be expected to result in a reduction in CAUTIs.

## Aim/Goal

In the selected intervention ICU, we aim to achieve a 25% reduction in the current DUR of above 0.8 catheter-days per patient-day, within the first two fiscal quarters of protocol implementation.

## The Team

ICU RN Local Champions: Christine Joyce, Lisa Mirabella, Susan Kitchen, Lauren Schmitz

ICU Clinical RN Specialists/Managers: Sharon O'Donoghue, Marjorie Serrano

MDs (multidisciplinary): Peter Steinberg, Andrew Hale, Deborah Nagle, James Levine

Infection Control/Hospital Epidemiology: Robin Kalaidjian, Payal Patel

Critical Care Quality: Kristin O'Reilly, Christina Cain, Michael Cocchi

Center for Resuscitation Science: Michael Donnino, Parth Patel, Mary MacDonald

Co-Investigators: Susan Holland, Peter Clardy, Sharon Wright, Graham Snyder

And many other nurses and physicians providing input and oversight.

## The Interventions

**Intervention:** Employ a team-generated, nurse-directed protocol to reduce the duration of IUCs, specifically through facilitating prompt removal of IUCs.

### Develop Classification Criteria to Determine IUC Justification:

#### HIGH

a contraindication or likely complication if catheter is removed, or a condition for which the catheter is part of evidence-based care

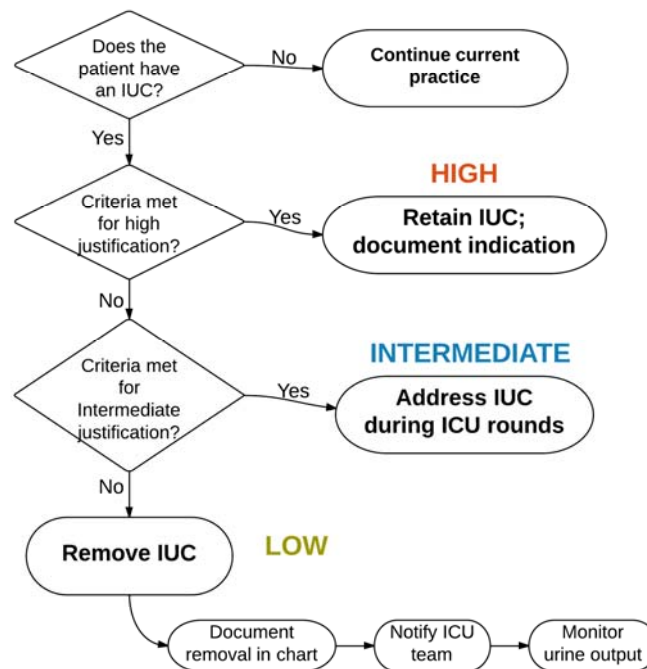
#### INTERMEDIATE

a relative contraindication or possible complication if catheter is removed, or a condition for which the catheter may be indicated

#### LOW

no contraindication or likely complication if catheter is removed, and no current or anticipated compelling clinical indication for catheter use

The classification criteria and algorithm are implemented **daily** for every catheter:



## The Results/Progress to Date

- The classification criteria are approaching completion and entering testing.
- Anticipating implementation efforts have included staff education.
- Data collection (retrospective) is underway.

## Lessons Learned

- The time to develop algorithm and consensus has taken longer than planned.
- Multidisciplinary team effort has contributed value to the design process.
- Many ancillary ideas and issues have arisen, such as identifying the appropriate indications for urine output monitoring.

## Next Steps/What Should Happen Next

- Trial implementation of the classification criteria and algorithm.
- A staff survey is being developed to understand perceptions regarding catheter use and removal.
- Analyze the effect of the algorithm on DUR and CAUTI rates before and after the intervention.

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