



# **Evidence-based Catheter Associated Urinary Tract Infection CAUTI Prevention**

Effective CAUTI Prevention Saves Lives, Prevents Harm, and Reduces Costs

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**RNs: 3.4 million strong  
A Force for Health**

# CMS Leadership to Reduce Hospital Acquired Conditions (HACs)

- National Quality Strategy (NQS) Tri-part Aim
  - Better Care, Healthier Populations, & Reduced Cost
- Center for Medicare and Medicaid Services Innovation's (CMMI) Partnership for Patients (PfP)
  - <http://www.partnershipforpatients.cms.gov/>
  - PfP Goals
    - Reduction of HACs by 40%
    - Reduction of Readmissions by 20%



# HACs Addressed

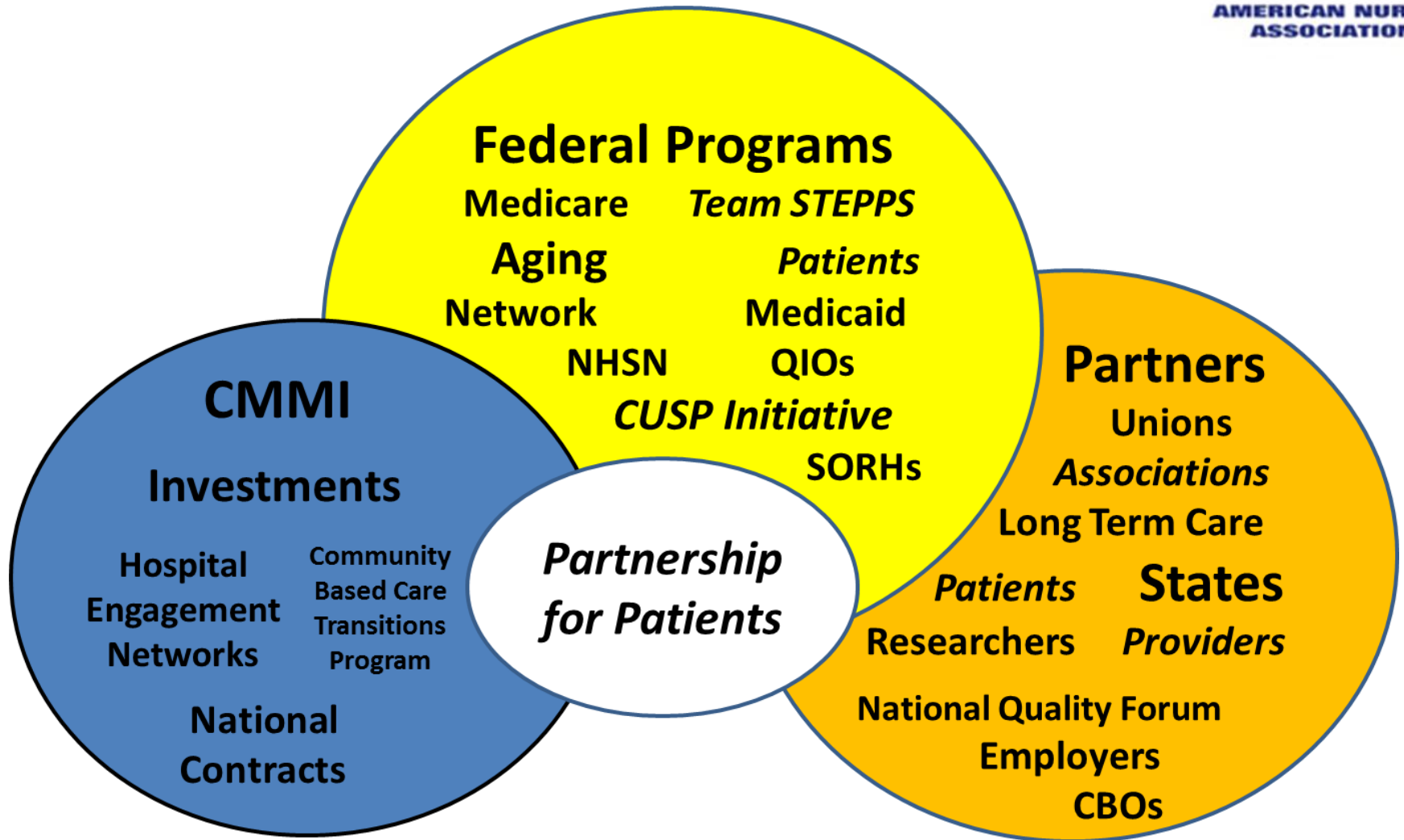
- Adverse Drug Events
- **Catheter-Associated Urinary Tract Infections**
- Central Line Associated Blood Stream Infections
- Injuries from Falls and Immobility
- Obstetrical Adverse Events
- Pressure Ulcers
- Surgical Site Infections
- Venous Thromboembolism
- Ventilator-Associated Pneumonia
- Readmissions
- Additional HACs addressed by LEAPT HENs (PfP 1.0)

# PfP 1.0 Structure/Strategies

- 27 Hospital Engagement Networks (HENs)
  - Evidence-based Strategies
  - Resources/Support
  - Measure Progress
- Employed Multiple NQS Levers
  - Innovation and Diffusion
  - Workforce Development
  - Measurement and Feedback
- Three PfP “Care Engines”



# PfP Three Care Engines to Achieve Results (PfP, 2014)



# ANA's Active Partnership with PfP 1.0

- Provided National Data from National Database of Nursing Quality Indicators (NDNQI®)
  - Falls, Pressure Ulcers and Ventilator Associated Pneumonia (VAP)
- ANA Took Leadership Role in Pressure Ulcers and Fall Reduction in 2011
- Disseminated Evidence-Based practice (E-B) Bundles from NDNQI Research (pressure ulcers and falls)
  - Participated in HEN webinars
  - Engaged nurses in PfP via ANA listservs and publications
  - Engaged the ANA-convened Nursing Alliance for Quality Care (NAQC) Members



# ANA Active Partnership Continued

- Tapped ANA's Organizational Affiliates
  - Nursing Specialty Organizations as Co-Partners with PfP
  - AORN, ARN, WOCN, AMSN
- Streamlined Infection Reporting to Reduce Burden
  - Center for Disease Control and Prevention (CDC) Infection Reporting
- Took a leadership role in CAUTI Prevention 2014 and 2015

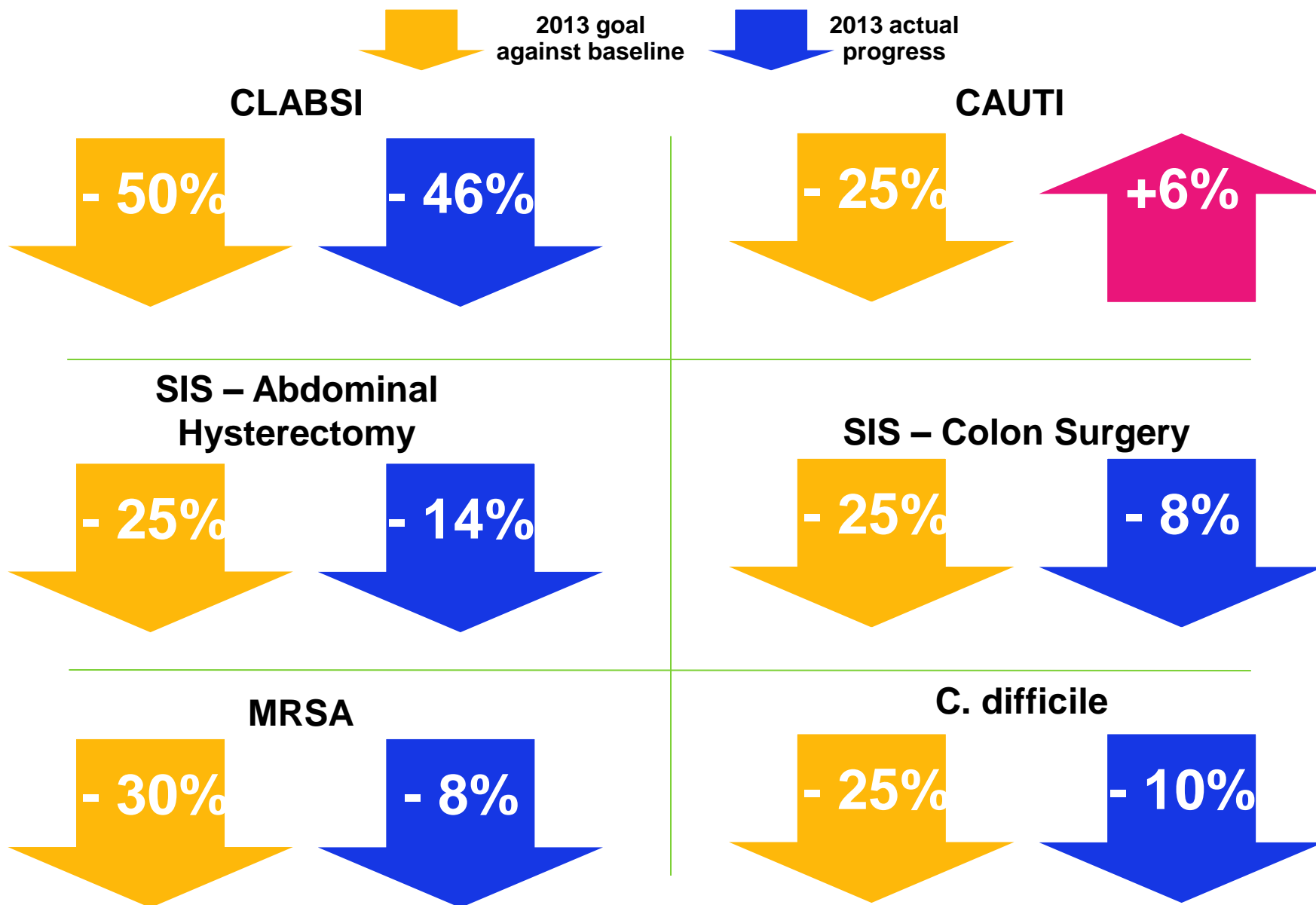




# Success and Challenges

- Reduction of pressure ulcers, falls, CLABSI, and VAP and other HACs
- CAUTI Presented a Challenge
  - Rates were Rising (up 6% in 2013 - CDC, 2015)
  - Multifactorial (complex)
  - Strategies Successful to Reduce CLABSI Less Effective for CAUTI
    - Multiple Interprofessional Organizations Laid Groundwork for Improvement

# Progress on Key HAIs – 2013 results



# ANA Identifies Critical Gap

- ANA and Multiple OA Met with Interprofessional Organizations and AHRQ Contractors Working on CAUTI
  - ID Strategies Already Employed
  - ID Gaps
- ANA Identified Gap in Universally-accepted Stream-lined E-B Tool
  - Diffuse Evidence into Practice
- Seminal Infection Control Research Confirmed this Gap (Stone et al., 2014).

# ANA Leads Innovative Tool Development

- ANA Convenes Technical Expert Panel (TEP)
- Common Understanding for CAUTI Prevention
  - Nursing Sensitive Problem
  - Nurse Driven Solutions Needed (e.g., nurse driven protocol)
  - Multidisciplinary Teamwork is Important
- TEP Develops Streamlined Evidence-based Tool - User Friendly/Effective
  - One Page – back/front
    - Clinical Algorithms
      - » Achieve CDC Identified Goals
      - » Cue EB Assessments for Bladder Emptying and Incontinence
    - Checklist for Insertion & Key EB Clinical Cues

# Tool Testing/Revision, Engagement, & Implementation

- 2014 HEN Pilots
  - Nurse Feedback
  - TEP Revised Tool
- Implementation First Quarter 2015
  - Dissemination and Nurse Engagement
    - ANA 2015 Quality Conference Kick Off
    - ANA's Constituent State Nurses Associations (C/SNAs) and OAs
    - Federal Agencies/Other Organizations Dissemination/Engagement of Nurses/Other Clinicians
  - Innovative Nurse Driven Strategies for Tool Implementation
    - Structural Supports: Nursing Structures of Care, Health Information Technology. CUSP & Culture of Safety
    - Processes

# CAUTI Prevention Tool - Algorithm

## Criteria for Appropriate Indwelling Urinary Catheter (IUC) Use\*

- **Acute urinary retention** (sudden and painful inability to urinate (SUNA, 2008)) or **bladder outlet obstruction**
- To improve **comfort for end-of-life** care if needed
- **Critically ill and need for accurate** measurements of **I&O**
- **Selected surgical procedures** (GU surgery/colorectal surgery)
- To **assist in healing** open sacral/perineal **wound** in incontinent patient
- Need for **intraoperative monitoring** of urinary output during surgery or large volumes of fluid or diuretics anticipated
- **Prolonged immobilization** (potentially unstable thoracic or lumbar spine, multiple traumatic injuries, e.g., pelvic fractures)

\* CDC (2009) Criteria for Indwelling Urinary Catheter (IUC) Insertion



# CAUTI Prevention Tool - Algorithm

## – Evaluating timely removal of IUC

Does patient meet CDC Criteria?

Yes ↓

Insert IUC per Tool Checklist (See page 2)

- Assess **daily** for meeting CDC Criteria for IUC (Follow nurse-driven removal protocol, if approved by the facility)
- Prevent CAUTI after IUC Insertion (See CDC IUC Maintenance Bullets, page 2)
- Assess for/report signs/symptoms of CAUTI (See facility protocol/procedure)

Does patient meet CDC (2009) Criteria for IUC?

No ↓

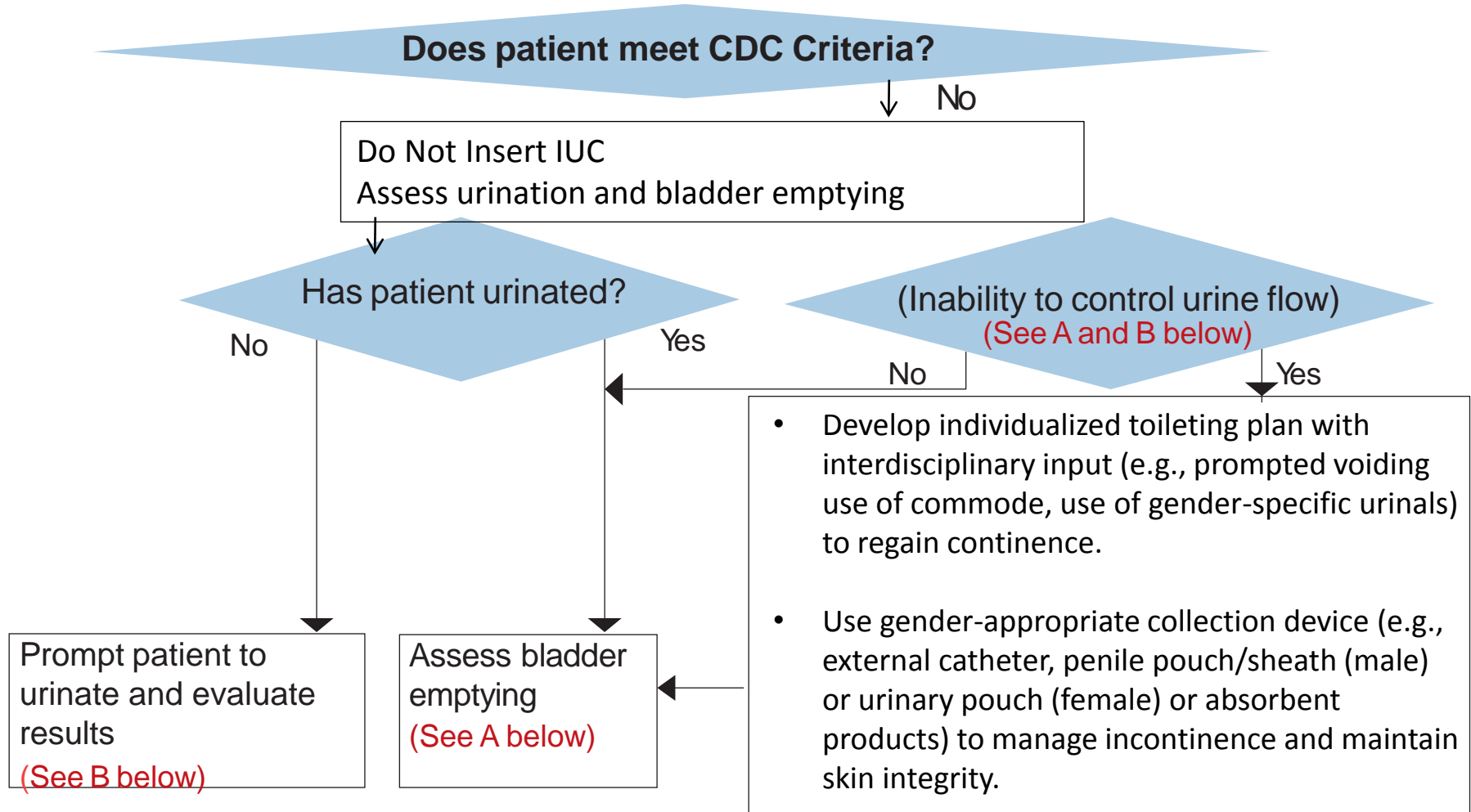
Remove IUC, assess bladder emptying  
(See A and B below)

Yes ↓

Prevent CAUTI  
(See bottom of page 2)

# CAUTI Prevention Tool - Algorithm

## – Assessment of bladder emptying and incontinence





# Assess for Adequate Bladder Emptying

## A. If Patient HAS urinated (voided) within 4-6 hours follow these guidelines:

- If minimum *urinated volume  $\leq 180$  ml in 4-6 hours* or urinary *incontinence* present, confirm bladder emptying.
- Prompt patient to urinate/check for spontaneous urination within 2 hours if post-void residual (PVR) < 300-500 ml
  - Recheck PVR within 2 hours.\*

\* Perform bladder scan (CDC, 2009) to determine PVR. If no scanner available, perform straight catheterization.

# Assess for Adequate Bladder Emptying Continued

**B. If Patient HAS NOT urinated within 4-6 hours and/or complains of bladder fullness, then determine presence of incomplete bladder emptying.\***

- Prompt patient to urinate. If urination volume  $\leq$  180 ml, perform bladder scan.\*

\* Perform bladder scan (CDC, 2009) to determine PVR. If no scanner available, perform straight catheterization.

# CAUTI Prevention Tool - IUC Insertion Checklist

Yes	Yes with Reminder	Comments
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## Before IUC Insertion :

- 1) Determine **if IUC is appropriate** per the CDC Guidelines (CDC, 2009) (See page 1, Box 1).
- 2) **Select smallest appropriate IUC** (14 Fr., 5ml or 10 ml balloon is usually appropriate unless ordered otherwise).
- 3) **Obtain assistance PRN** (e.g., 2-person insertion, mechanical aids) to facilitate appropriate visualization/insertion.
- 4) Perform **hand hygiene**

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# CAUTI Prevention Tool - IUC Insertion Checklist

## Patient Preparation/Insertion of IUC:

- 1) Perform **peri-care**, then, re-perform hand hygiene.
- 2) Maintain strict **aseptic technique** throughout the actual IUC insertion procedure, re-perform hand hygiene upon completion.
  - Use sterile gloves and equipment
  - Do not pre-inflate the balloon to test it
- 3) **Insert IUC to appropriate length and check urine flow before balloon inflation** to prevent urethral trauma.
  - In males, insert fully to the IUC “y” connection, or in females, advance ~1 inch or 2.5 cm beyond point of urine flow.
- 4) **Inflate IUC balloon correctly**: Inflate to 10 ml for catheters labeled 5 ml or 10 ml per manufacturer.

# CAUTI Prevention Tool - IUC Insertion Checklist

Yes	Yes with Reminder	Comments
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## After IUC insertion completion:

- 1) Perform **Triple Action** for IUC/Drainage System:
  - **Secure IUC** to prevent urethral irritation
  - **Position drainage bag** below the bladder (but not resting on the floor)
  - Check system for **closed connections** and no obstructions/kinks

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# CAUTI Prevention Tool

## Maintenance of IUC/Drainage System and Other Patient Care to Prevent CAUTI (CDC 2009)

- Maintain appropriate catheter securement per facility protocol/procedure and the drainage bag below the level of the bladder at all times (but not on the floor, even when emptying).
- Empty the drainage bag regularly using a separate, clean collecting container for each patient; avoid splashing, and prevent contact of the drainage spout.
- Maintain unobstructed urine flow by keeping the catheter and tube free from kinking.
- Maintain a closed drainage system.

# CAUTI Prevention Tool

## Maintenance of IUC/Drainage System and Other Patient Care to Prevent CAUTI (CDC 2009) Continued

- If breaks in the closed system are noted (e.g., disconnection, cracked tubing), replace the catheter and collecting system following above IUC insertion checklist.
- Perform perineal hygiene at a minimum, daily per facility protocol/procedure and PRN.
- Use timely fecal containment device when appropriate for fecal incontinence.
- Teach nursing assistants and patient/family IUC maintenance.

# Updated CAUTI Outcomes

- AHRQ Reported Reduced CAUTI Rates first quarter 2015 (AHRQ, 2015)
- AHRQ Updated Longitudinal HAC Report 10/2015 – Final HAC Rates
  - “Cumulatively, approximately 1.3 million fewer incidents of harm occurred in 2011, 2012, and 2013 (compared to 2010), with most of the improvement occurring in 2012 and 2013. About 40 percent of this reduction is from ADEs, about 20 percent is from pressure ulcers, and about 14 percent from catheter-associated urinary tract infections (CAUTIs)” p. 7
  - PfP Measured HACs per 1,000 Discharges = 8.8



# Key Points

- **Nurse/Team Driven CAUTI Prevention**

- Consistent Use of ANA's CAUTI Prevention Tool

- Link: <http://nursingworld.org/ANA-CAUTI-Prevention-Tool>

- E-B Reduction of IUC Use and Catheter Days
    - Comprehensive Bladder Emptying and Incontinence Assessment & Interventions
    - E-B Insertion
    - E-B Timely Removal
    - E-B IUC Maintenance

- **Ensure Key Structural Supports**





# **ANA**

## **AMERICAN NURSES ASSOCIATION**

More information is available on ANA's website:

**[www.NursingWorld.org](http://www.NursingWorld.org)**