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Reducing Catheter Associated Urinary Tract Infections (CAUTI) by Decreasing Use of Indwelling Catheters

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Background

Catheter Associated Urinary Tract Infections (CAUTI) are considered a preventable hospital-acquired infection [2]. Centers for Medicaid and Medicare no longer reimburse hospitals for preventable CAUTIs [2]. A concerted effort to decrease our indwelling urinary catheter (IUC) rate has led to a decrease in the number of infections related to these catheters at Maine Medical Center (MMC) in Portland, Maine. Starting in 2012 as a result of The Joint Commission National Patient Safety Goal, the inter-professional CAUTI committee focus has been on decreasing utilization of IUC[1]. After an initial large decrease in utilization, the rates have flattened. The effort over the past year has been focused on breaking this plateau and lowering IUC use. As a result, MMC has decreased its CAUTI rate below the national bench mark.

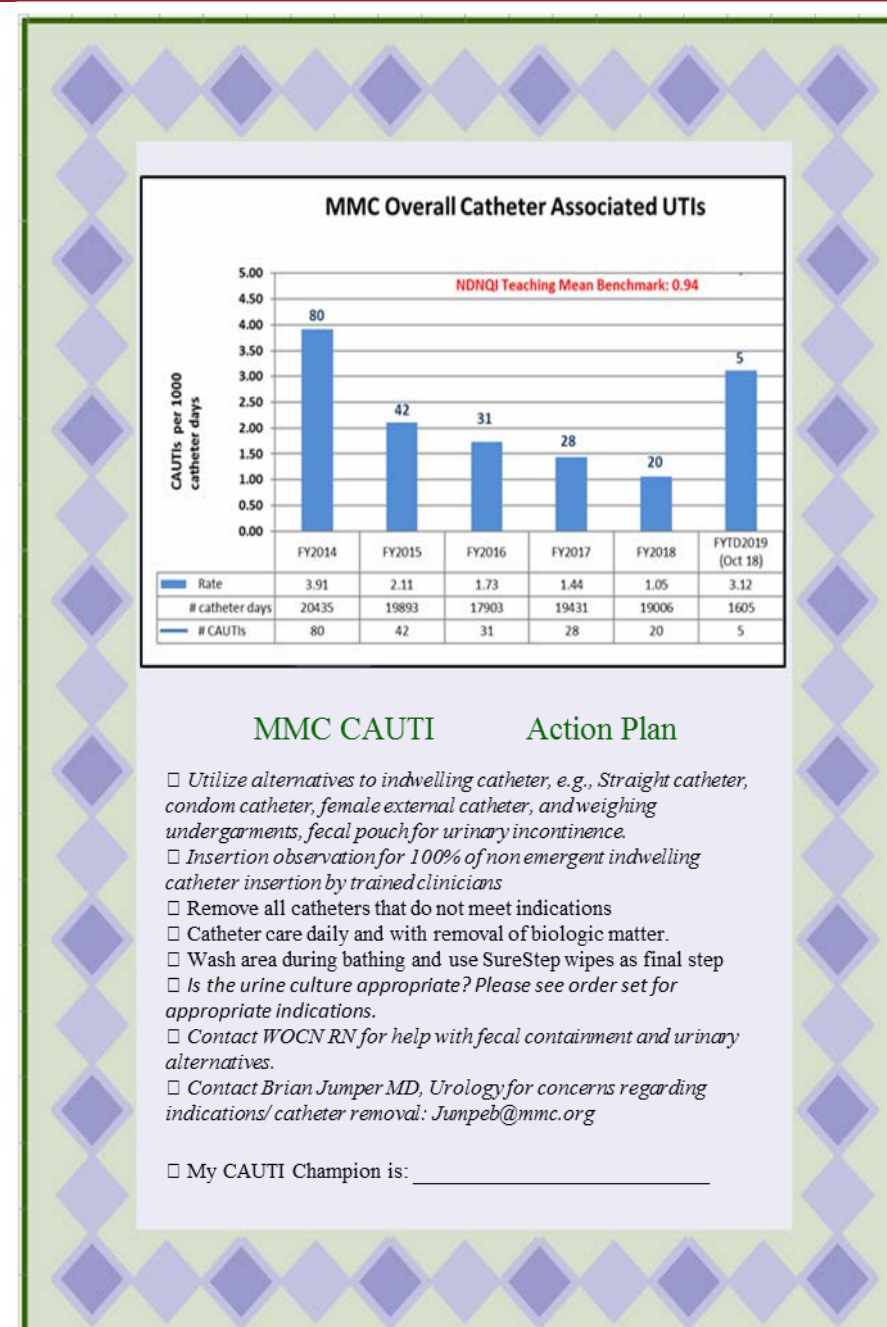
Approach

Several PDSA cycles have been implemented to focus on removal of unnecessary IUCs. The cycles include a daily tracking of all inpatients with an IUC by the CAUTI prevention Registered Nurse (RN). She in turn follows up with the nursing leadership and providers regarding those catheters deemed unnecessary. Follow up on the unit level is required by nursing management or appropriate providers regarding those catheters deemed unnecessary based on evidence-based national indications [2]. In addition, weekly rounds occur on an inpatient medical surgical unit with 40 inpatients that historically had the highest MMC CAUTI rate outside of the intensive care units. These rounds include unit hospital leadership, nursing, providers, infection control nurses, and staff that care for patients at the bedside. Action plans are developed to remove catheters as soon as they are no longer indicated. These collaborative inter-professional rounds have now expanded to the intensive care units.

Hospital CAUTI Action Plan

Action Plan Goals:

- Standardized Communication at the Unit Level
- Current CAUTI rate
- Alternatives to catheter use
- Protocol of catheter care
- Posted on unit level monthly for staff
- Identifies unit CAUTI champion if staff have questions/concerns



MMC Overall Catheter Associated UTIs

	FY2014	FY2015	FY2016	FY2017	FY2018	FYTD2019 (Feb 19)
Rate	3.91	2.11	1.73	1.44	1.05	1.48
# catheter days	20435	19893	17903	19431	19006	6759
# CAUTIs	80	42	31	28	20	10

MMC CAUTI Action Plan

- Utilize alternatives to indwelling catheter, e.g., Straight catheter, condom catheter, female external catheter, and weighing undergarments, fecal pouch for urinary incontinence.
- Insertion observation for 100% of non-emergent indwelling catheter insertion by trained clinicians
- Remove all catheters that do not meet indications
- Catheter care daily and with removal of biologic matter.
- Wash area during bathing and use SureStep wipes as final step
- Is the urine culture appropriate? Please see order set for appropriate indications.
- Contact RPOCN RN for help with fecal containment and urinary alternatives.
- Contact Brian Jumper MD, Urology for concerns regarding indwelling catheter removal. Jumper@mmc.org
- My CAUTI Champion is: _____

Interventions and Alternatives

Monthly meetings of the Interprofessional CAUTI Prevention Committee are held to share information, evidence-based practice, lessons from previous infections, and address concerns. Bedside IUC audits are done twice monthly on inpatient units to ensure proper care and maintenance.

Best Practice

Implemented a trained observer must be present in non-emergent situations to ensure IUC insertion with sterile technique

Alternative Solutions

All inpatient units have 1-2 bladder scanners to measure bladder volumes and scales to weigh undergarments/pads

Evidence based Pediatric and Adult Urinary Retention Protocols implemented [1]

Trials

A female external catheter (PureWick®) was trialed and implemented

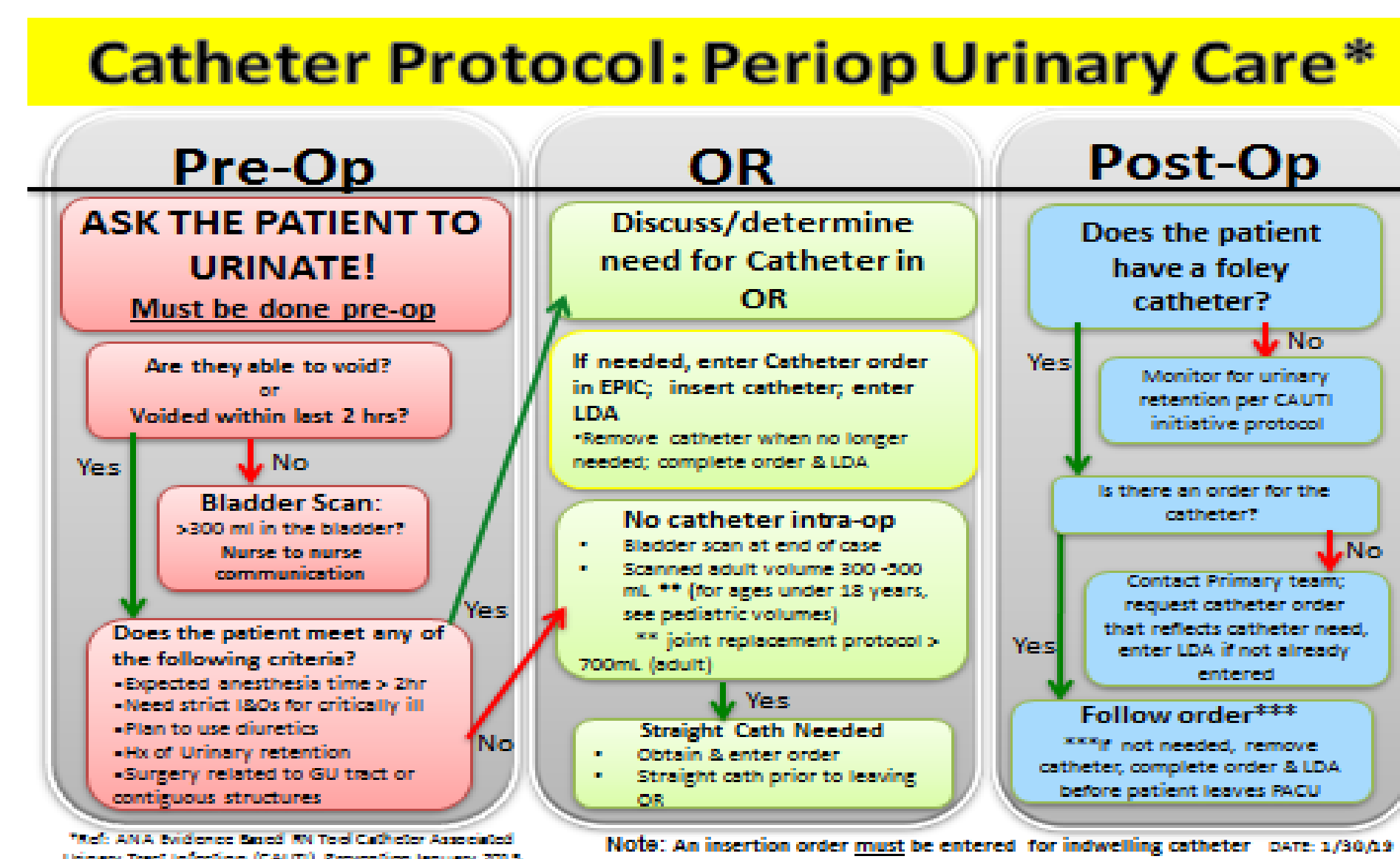
A trial (February-May 2018) for increasing bladder volumes from 500mls to 700mls in perioperative joint replacement patients was completed and brought into practice

Protocols

The Early Recovery After Surgery (ERAS) Protocol for surgical patients to discontinue the IUC on post-op day one was implemented with surgeon buy-in

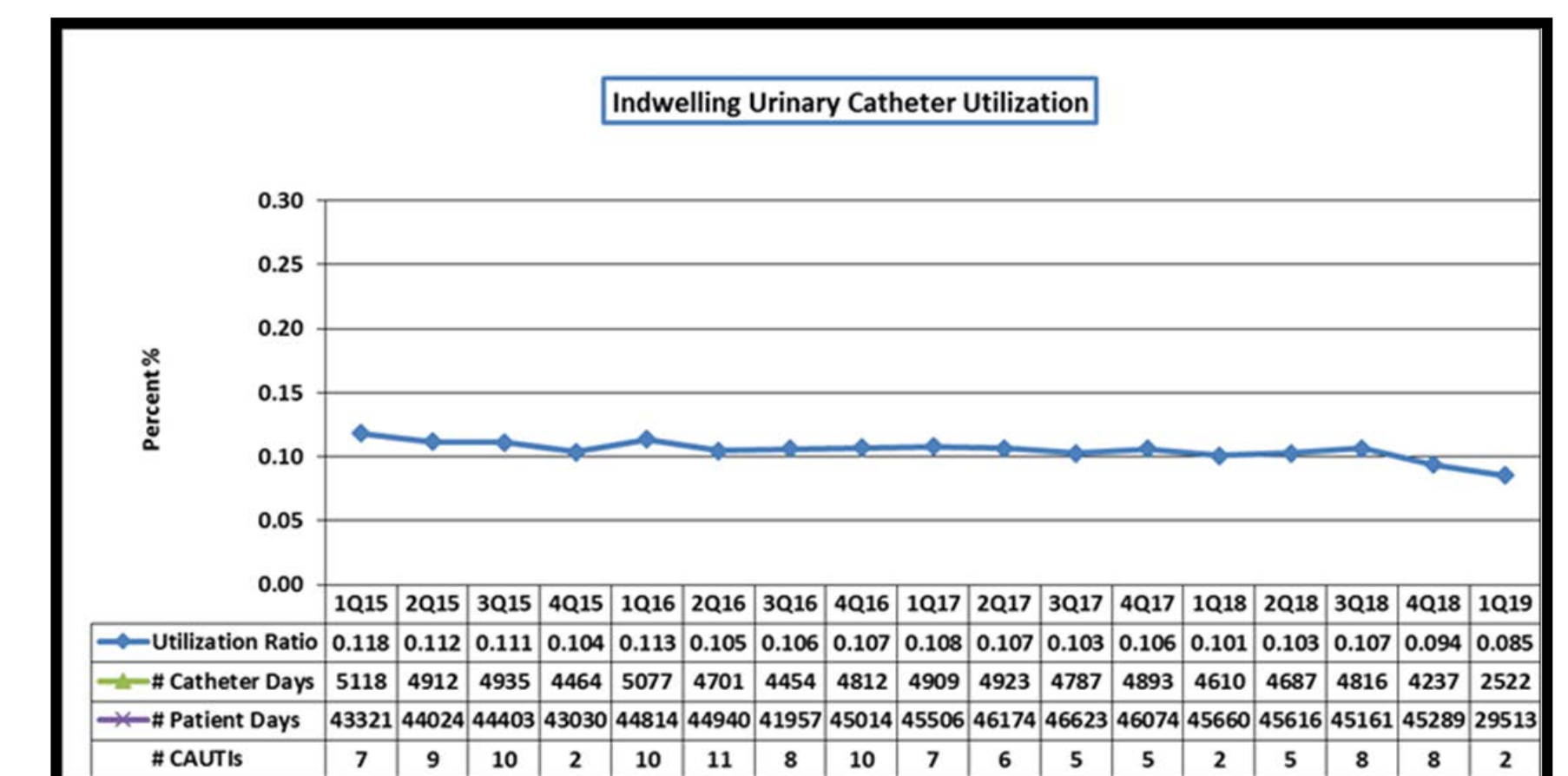
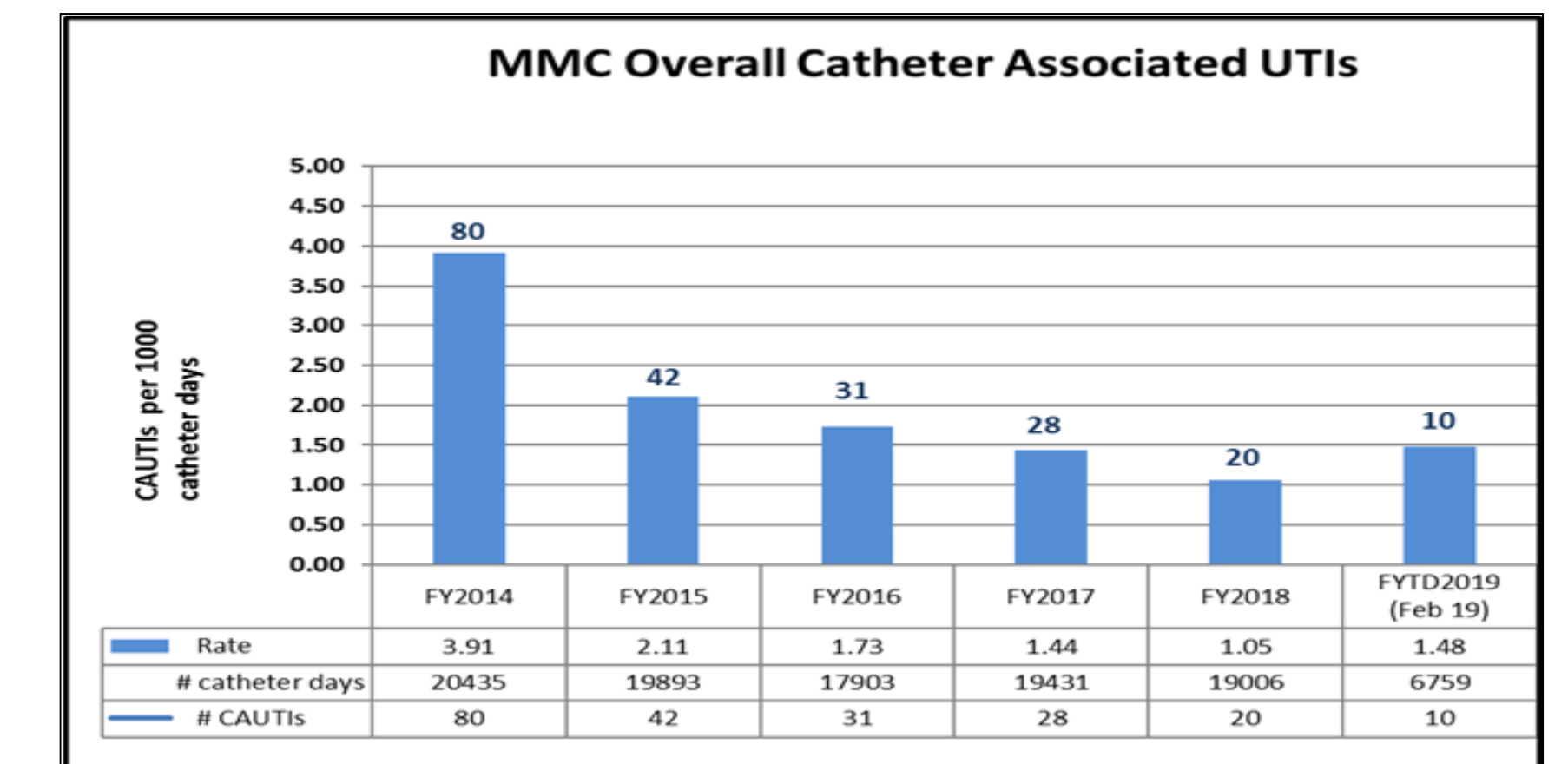
Refining our perioperative IUC Protocol has lead to improved guidelines for catheter insertion and removal [3]

Example of Protocol for IUC placement in Perioperative Period



Results

The IUC utilization at MMC has dropped from .33 in 2012 to .11 in 2017 to 0.09 in 2018. As a result, the CAUTI rate at MMC met the Annual Implementation Plan (AIP) goal of ≤23 infections, with a total of 20 infections and a Standardized Infection Ratio (SIR) of 0.6



Conclusion

Daily management with nursing and provider leadership has led to looking at alternatives to IUCs. Without a catheter, a CAUTI cannot occur. The systematic approach to daily review and unit leadership follow-up has led to a change in culture and earlier catheter removal.

References

- ANA Evidence Based RN Tool Catheter Associated Urinary Tract Infection (CAUTI) Prevention January 2015 <http://nursingworld.org/MainMenuCategories/ThePracticeofProfessionalNursing/Improving-Your-Practice/ANA-CAUTI-Prevention-Tool>
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