CHI Health Immanuel

6901 N. 72nd Street

Omaha, Nebraska 68122

Denise Hall

Denise.hall502@commonspirit.org

Phone 402-572-2071/fax 402-572-3680

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CAUTI Reduction

CAUTI Reduction on Acute Medical Units

Introduction

CHI Health Immanuel is an acute care hospital that includes an inpatient rehabilitation unit and behavioral health units. We focused on our acute medical units which had 5 Catheter associated Urinary Tract Infections (CAUTIs) in fiscal year (FY) 2022. Our campus is connected to our Mission to improve the health of the people we serve therefore, we don't want to cause any harm, such as a CAUTI. We have fostered a collaborative approach in an effort to improve patient safety and outcomes across disciplines. We reviewed our past CAUTIs and found gaps when reviewing our debrief forms. Bundle compliance such as foley cares not being done every shift and finding opportunity with a proper indication for the foley were the gaps identified. We were passionate about not preventing harm to another patient, therefore our team decided to take action, and commit to doing daily foley observation audits for the entire FY. With doing daily observation auditing, coaching in the moment and correcting issues on the spot, we believed we would ultimately have less CAUTIs. We believed with executive leadership support that we could sustain the momentum and accountability to follow through with our action plan.

Leadership/Planning

CHI Health Immanuel's leadership guides our organization. Based on our Mission and Vision we are committed to fostering an environment that encourages performance assessment and improvement related to important governance, management, clinical and support functions. Administrative and Medical staff leaders agree to work mutually toward those goals.

Mission

"As CommonSpirit Health, we make the healing presence of God known in our world by improving the health of the people we serve, especially those who are vulnerable, while we advance social justice for all."

Vision/Values

"As a ministry of the Catholic Church, we will lead the transformation of healthcare to achieve optimal health and wellbeing for the individuals and communities we serve, especially those who are poor and vulnerable." Our values are defined as compassion, inclusion, integrity, excellence and collaboration.

Statement of Purpose

"We will be differentiated by our faith-based Mission and our delivery of the highest-quality, value-based, clinically integrated care that improves the health and well-being of every community we serve."

Strategic Plan

CAUTI reduction is specifically listed as an indicator on our campus scorecard, in partnership with all disciplines, and the medical staff. Collaborative and specific indicators of key processes are designed, measured and assessed by all appropriate departments/services and disciplines of the facility in an effort to improve patient safety and organizational performance.

Process of Identifying Need

Our facility wanted to get down to zero CAUTIs after having a total of 5 CAUTIs in FY 2022. That year, we had 4 CAUTIs in the ICU and 1 on a Med/Surg unit. We owned that we caused harm to these patients. We recognized that our CAUTI prevention/bundle was not hard-wired when reviewing each case. One of our patient safety goals has and continues to be on the

reduction of CAUTIs. We know that CAUTIs cause morbidity, mortality and increase length of hospital stays which then adds cost that can be prevented (AHRQ, 2018). Our facility is aware that the most common type of healthcare-associated infection that is reported are urinary tract infections. We knew that if our leadership, providers and staff all collaborated we could have success with decreasing our CAUTIs and striving for zero events. Our leadership supported staff by assisting with provider education and providers and leaders assisted when patients needed additional education with refusal of cares. We found having that extra support for the staff nurses, helped with patient compliance/engagement. The expectation was for staff to consult with their leader, or provider to assist with patient or family refusal of cares which would help reinforce the need for compliance.

Process Improvement Methods

On June 24, 2022, we had an action planning meeting regarding gaps identified with all our CAUTIs which led us to a FOCUS-PDSA, see Attachment A, as a process improvement method for our acute medical units. We clarified current knowledge regarding CAUTI prevention and re-educated appropriate indications and candidates for external devices really focusing on if the catheter is in fact indicated and are the nurses communicating concerns with the providers. We identified our stakeholders as our CMO, VP of Nursing, Director of Quality, Nursing Directors and managers of the acute medical units and the Infection Preventionist. We reviewed what we had tried in the past such as having device huddles and how no one seemed accountable to attend or speak to the device indication consistently. In the past, we didn't have any of our Executive leadership present for the huddles to help support the importance of it. Foley observation audits, See Attachment C, were only being done monthly so there wasn't the ability to do real time coaching and correction on the spot.

Re-education included the urine culture checklist (Code P process- Attachment B) with nurses and providers regarding signs and symptoms. Nurses all had to review the Bladder Management policy along with the Nurse Driven Foley Removal Protocol, see Attachment D. Yearly CAUTI education as computer based training along with a yearly skills day that all nurses in patient care areas had to do.

Our stakeholders understood causes of process variation such as nurses and certified nurse assistants (CNAs) forgetting to do the catheter cares and or forgetting to document it. Another variation identified was providers wanting accurate intake and outputs and not wanting foley alternatives. A third variation identified was that we had nurses that weren't comfortable with using the Nurse Driven Foley Removal Protocol. Meetings and open dialogue was done throughout the year with providers to ensure they were aware of all our alternative devices and our urine process referred to as Code P to ensure we are doing urine cultures on symptomatic patients and not just pan culturing. Our stakeholders then decided the most effective action to prevent CAUTIs was to audit the foley bundle daily. The bundle components consisted of 7 elements: Catheter cares every shift and PRN, Stat lock in place, no dependent loops in the drainage tubing, drainage bag below bladder and off the floor, the seal intact/closed system, the need for catheter still appropriate today, and the foley bag is labeled with the date of insertion.

Data Collection

The Infection Preventionist would email all the identified stakeholders M-F the device list and included a chart review on the compliance of catheter cares from the prior day. The Nursing Director or Manager was accountable for replying all to the email with each patients' foley indication for that day and coaching the staff for missed cares or documentation issues. The daily observation audits were done by directors, managers or the charge RN and were entered into an

electronic tool. We reviewed the electronic data at least monthly at our Scorecard committee meeting and discussed opportunities and any near miss CAUTIs. The leaders also had CAUTI prevention as a standing item for their monthly staff meetings.

Benchmarking

CAUTIs have been associated with increased morbidity, mortality, hospital cost, and length of stay. In addition, bacteriuria commonly leads to unnecessary antimicrobial use, and urinary drainage systems are often reservoirs for multi-drug-resistant bacteria and a source of transmission to other patients. Monitoring is undertaken in order to identify and resolve any breakdowns that may result in suboptimal patient care and safety, while striving to continuously improve and facilitate positive patient outcomes (SHEA, 2014). Our hospital utilizes a multidisciplinary approach to reduction; doing a detailed analysis of every event to identify opportunities so that action plans can be implemented to prevent recurrence. Our FY22 data of having CAUTIs and seeing the opportunities from our debrief forms helped drive our decision to do catheter observation audits daily with a heighten focus on catheter care every shift and a proper indication. Our electronic data files were an added data collection tool to show us which components needed improvement which were discussed at our monthly Scorecard Committee meeting, but looked at in the moment when auditing.

FY22	# of CAUTI's
ICU	4
PCU	0
Overflow	0
Med/Surg Onc.	0
Med/Surg Ortho	1

FY23	# of CAUTI's
ICU	0
PCU	0
Overflow	0
Med/Surg Onc.	0
Med/Surg Ortho	0

Results: Intended and Unintended

The ultimate intended result was to have zero CAUTIs. For FY23 on the acute medical units we had no CAUTIs which was intended by doing our daily observation audits. This was as intended a cost savings. We unintentionally found to have less foleys. In the ICU in FY22 we had 2886 foley days and in FY23 we had 2530 foley days. We decreased our ICU foley days by 356 days. We also found increased communication regarding plans for foleys with the providers such as how long a patient with retention needed to have their foley before doing void trials.

Process Measures

Process measures included our daily observational audits with coaching in the moment and having leaders accountable by replying all to the email chain regarding that day's foley indication.

Outcome Measures

Outcome measures were that cares were corrected in the moment, and proper indications were being looked at daily and removed more timely which resulted in less foley days. Ultimately, we had zero CAUTIs, which is what we strived to do.

Financial Implications

The average CAUTI costs approximately $13,793.00, per AHRQ, Agency for Healthcare Research and Quality, and a total of 5 CAUTIs would be $68,965.00. Length of stay is impacted along with increase antimicrobial usage which increases the risk for other infections and having this hospital associated infections can impact your patient experience along with affection morbidity and mortality.

Market Performance Improvement

Understanding our challenges and opportunities as a market or corporation and then setting goals and implementation of standardized reduction initiatives as board goal activities was helpful in order to put process improvements in place. Learning from each other was a benefit. It was also a goal to continue to strive for improvement year over year, to evaluate what was effective.

Creativity and Innovation

We found that leaders were innovative by questioning the status quo. If staff told them that a foley was in for critical care status requiring hourly intake and output, the leader would ask what the patient was on to support that, such as being on vasopressors. If staff stated a foley was needed for retention, the Infection Preventionist would look for documentation to support it such as bladder scanning and straight cathing. The leaders would then seek out a plan from the provider such as medication for urinary retention and how long before attempting void trials.

Lessons Learned

The foley bundle is not new to our staff, however, validating the compliance to sustain it was necessary. With new staff and travelers, we found that educating yearly wasn't enough. Coaching in the moment when gaps were found with best practices were at times a daily thing. Reinforcing best practices such as providing kudos to those that hardwired the foley bundle helped sustain the momentum along with sharing near misses.

Barriers

A barrier that was addressed early on was that our Emergency Department (ED) inserted foleys on almost all of our ICU patients. Once a foley was in, it seemed to be more difficult to remove it. The ED leadership assisted with just in time education to their staff to for the most

part straight cath and send the patient up to ICU to determine if a foley alternative could be used instead. Another barrier was having the daily observation audits done on weekends and holidays when the leaders weren't there. The ICU was able to hardwire a process, but the Med/Surg and PCU/overflow units were not.

Replication

This project could easily be replicated at other hospitals. The goal is to add foley observational audits with processes that are already being done, such as during leader rounding or discuss indications during multidisciplinary rounds that way it won't feel like an additional item.

Sustainability

Our facility has been able to sustain the momentum of doing daily observational audits for the entire FY 2023. We plan to continue to do the daily audits this new FY 2024. We have continued to have our daily observation data reviewed monthly at our Scorecard Committee Meeting and leaders continue to have CAUTI prevention and our outcomes discussed at their monthly staff meetings. Our hospital leadership has recognized all the acute medical units for their hard work which reinforces the importance of it.

Attachment A **FOCUS-PDSA Document**

Attachment B **Code P Urine Checklist**

Attachment C **Catheter Observation Tool**

Attachment D **Urinary Catheter Removal Protocol**

FOCUS-PDSA
CHI Health Immanuel

Attachment A

		Action Steps	Assignments/ Time line	Complete
F	Find a process to improve	**CAUTI Reduction**-That all catheter bundle components are being met daily. • Catheter cares 1x per shift and PRN • Stat lock in place • No dependent loops in drainage tubing • Drainage bag below bladder and off the floor • Seal intact/closed system • Need for catheter still appropriate TODAY • Bag labeled with the date of insertion	Start date 7/1/2022	X
O	Organize a team who knows the process	**Executive Leadership**- Dr. Acker CMO, Lori Nahnsen VP of Nursing, Chris Daley Quality Director **Directors**: Jen Vasa ICU, Tina Graham PCU/overflow, Blake Sheldon Med/Surg **Managers**: April Carter ICU, Andy Mattes PCU/overflow, Ben Graber & Jen Reetz Med/Surg **Infection Prevention**: Denise Hall	6/24/2022 CAUTI Action Planning Session for FY23	X
C	Clarify current knowledge of the process	Directors sent out education reminding staff about our urine checklist (code P) that is expected to be filled out when a urine culture is ordered on a patient that has a foley or had a foley previous day. Coaching in the moment when opportunities are found. Discuss CAUTI prevention at staff meetings. Discuss daily: • Is the foley appropriate for the patient (review indications) • Is the patient a candidate for an external catheter • Are foley cares being done • Communication with providers Daily audits entered into the electronic tool. Reply to the daily email regarding what today's indication is.	Initiated on 7/1/2022 Ongoing and daily	X
U	Understand causes of process variation	• Nurses/CNAs forgetting to do catheter cares, or forgetting to document • Providers wanting to use Foleys for accurate I&O's • Some nurses are not feeling comfortable using the nurse driven foley removal protocol.	6/24/2022	X

S	Select the process improvement	Leaders accountable for ensuring foley audits are being done daily and coach in the moment
		• Line & Foley huddle transitioned to an email thread including all the people identified as our team
		  ○ Email consists of all the patients that have a foley and if BID foley cares were completed
		  ○ Director/Manager is accountable for reply indicating what today's foley indication is
		• Director/Manager or designated charge RN audits foleys and records it in the electronic tool
			Initiated on 7/1/2022
			
			Ongoing and daily
				X

		Action Steps	Assignments/Time line	Complete
P	Plan the improvement	• Develop education	6/24/2022	X
D	Do the improvement	• Educate/Ensure staff know expectation of involving the charge nurse for the double check after completing the urine checklist and nurse driven foley removal process • Do the daily foley audit and enter into the electronic tool. • 1:1 coaching with staff that had missing catheter cares or an improper indication. • Staff and or leaders to coach providers when provider opportunities occur such as resistance of foley removal	Review at monthly staff meetings as part of the agenda Ongoing	X
S	Study the effectiveness of the change	• Review data at every SCORECARD meeting. • Review and reinforce leader expectations during every SCORECARD meeting • Requested action if smart sheet items showed results below 95%	Initiated 7/1/2022 Ongoing: Review data at least monthly along with any near miss or CAUTIs at Scorecard Committee meeting	X

A	Act to hold the gain	• Hardwire the process and continue to validate
		• Give feedback about improvements with documentation and or cares and how many CAUTIs this FY.
		  o Good catches such as with the urine checklist, and when we removed a foley using nurse driven protocol.
		• Continue to discuss CAUTI Prevention at monthly staff meetings
		• Share data with staff, leaders and providers:
		  o Infection Prevention meetings
		  o Employee Forums
		  o Senior Leadership meetings
		  o Quality Council meetings
		  o Medical Executive meetings
		  o Intensivist/ Critical Care Provider meetings
			7/1/2022 & ongoing	X

Patient Sticker

Attachment B

Admit Date: _____
Specimen Date: _____

Urine Cultures from Indwelling Urinary Catheter* (Code P)

Patient has an indwelling urinary catheter* in place <u>currently</u> OR <u>removed in the past 24 hours</u>
*This form is not required for a culture from a suprapubic catheter.

<u>Step 1</u> Assess for symptoms that are present. Proceed to Step 2.

☐ Fever >100.4
☐ Suprapubic tenderness
☐ Costovertebral tenderness
☐ Lower abdominal pain

*If the only symptom(s) the patient is having is/are **burning with urination** or **urinary hesitancy** and the catheter was removed that day or the previous day, attempt to push fluids and delay culture for 24 hours to see if symptoms resolve. If needed, a straight cath is recommended for emptying the bladder.*

A culture is NOT indicated if the <u>only</u> urinary symptom present is one of the following:

☐ Cloudy urine
☐ Sediment
☐ Strong or foul odor
☐ Pan culturing-not recommended *(culturing multiple sources without a clear indication of fever source)*

<u>Step 2</u> Discuss the findings. Per hospital protocol, review the order and s/s with the Charge Nurse, House Supervisor or Infection Preventionist. After discussion, proceed to Step 3.

<u>Step 3</u> Take action: If the culture is confirmed to be appropriate

1) Verify the appropriate culture type (UA with culture if indicated).
2) Collect** and send specimen.

** If Urinary Catheter is >72 hours old, replace the catheter before obtaining the specimen.

<u>Step 3</u> Take action: If the culture is found to be inappropriate, contact the Provider to discuss and recommend the order be cancelled.

Name of provider:_____
Date/Time: _____
Response: _____

Name of staff member completing form: _____Date/Time_____

Name of Leader verifying appropriateness: _____Date/Time_____

Test appropriate? ☐ No ☐ Yes

Hospital Specific edits: **☐ Send checklist to Infection Prevention. Fax 402-572-3680**

If the provider wants to proceed with testing of an inappropriate specimen *<u>>3 days after admission & >2 days after Foley placed, or 24 hours after Foley removed</u>*, contact Infection Prevention Ext. 2071, Monday- Friday from 8-4:30

Infection Prevention contacted: Date/Time_____

NOT PART OF THE MEDICAL RECORD

3/15/21

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Indwelling Urinary Catheter Observation

Attachment C

ACCEPTABLE INDICATIONS FOR INDWELLING URINARY CATHETER (FOLEY)	
☐ Urinary retention (sudden and painful inability to urinate) or bladder outlet obstruction, neurogenic bladder. ☐ Critical Care status requires hourly outputs. ☐ Urinary incontinence with open sacral wounds ☐ End of life receiving comfort care measures	☐ Prolonged surgical procedures/ under anesthesia ☐ Urologic surgery or other surgery on contiguous structures of the genitourinary tract ☐ Requires immobilization due to trauma or surgery ☐ Chronic indwelling urinary catheter on admission ☐ Difficult insertion, such as required by urologist

Instructions: Observe patient urinary catheter. Observe each practice and record the observation.

Unit: _____ **Observer:** _____ **Date:** _____

Foley Catheter Observation Categories	PATIENT 1	PATIENT 2	PATIENT 3	PATIENT 4	PATIENT 5	Comments
Catheter cares 1x per shift and PRN	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
Stat lock in place	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
No dependent loops in drainage tubing	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
Drainage bag below bladder and off the floor	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
Seal intact/closed system	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
Need for catheter still appropriate *TODAY*? Record which number is the indication in list above.	☐ Yes ☐ No # _____	☐ Yes ☐ No # _____	☐ Yes ☐ No # _____	☐ Yes ☐ No # _____	☐ Yes ☐ No # _____	
Bag labeled with date of insertion	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	

Attachment D

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NURSING SERVICES
URINARY CATHETER REMOVAL PROTOCOL

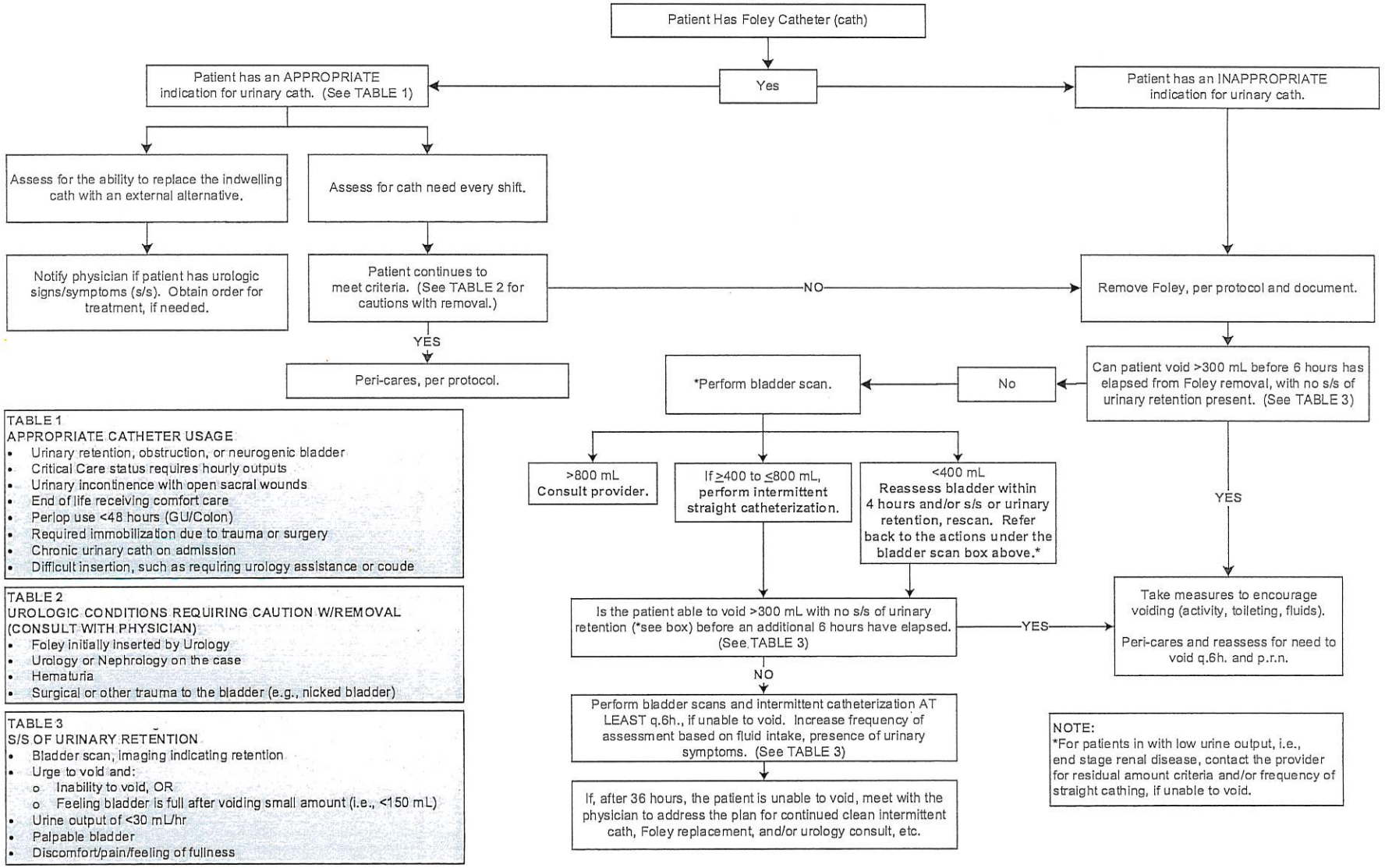

TABLE 1
APPROPRIATE CATHETER USAGE
- Urinary retention, obstruction, or neurogenic bladder
- Critical Care status requires hourly outputs
- Urinary incontinence with open sacral wounds
- End of life receiving comfort care
- Perlop use <48 hours (GU/Colon)
- Required immobilization due to trauma or surgery
- Chronic urinary cath on admission
- Difficult insertion, such as requiring urology assistance or coude

TABLE 2
UROLOGIC CONDITIONS REQUIRING CAUTION W/REMOVAL (CONSULT WITH PHYSICIAN)
- Foley initially inserted by Urology
- Urology or Nephrology on the case
- Hematuria
- Surgical or other trauma to the bladder (e.g., nicked bladder)

TABLE 3
S/S OF URINARY RETENTION
- Bladder scan, imaging indicating retention
- Urge to void and:
  - Inability to void, OR
  - Feeling bladder is full after voiding small amount (i.e., <150 mL)
- Urine output of <30 mL/hr
- Palpable bladder
- Discomfort/pain/feeling of fullness

NOTE:
*For patients in with low urine output, i.e., end stage renal disease, contact the provider for residual amount criteria and/or frequency of straight cathing, if unable to void.