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### **UCANP: Urinary Catheter Alleviation Navigation Protocol Quality Improvement Project**

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# UCANP: Urinary Catheter Alleviation Navigation Protocol Quality Improvement Project

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## Introduction

Catheter associated urinary tract infections (CAUTI) can place significant financial burden on healthcare facilities, decrease quality of care and increase length of stay. Reducing indwelling urinary catheter days reduces the risk of a CAUTI. Current practice after catheter removal includes the reinsertion of the catheter if the patient demonstrates three episodes of urinary retention that requires intermittent urinary catheterization. Intermittent urinary catheterization, when implemented appropriately, has proven to be safe and decreases risk for urinary infection.

## Background

Several initiatives have been introduced to decrease hospital CAUTI rates, including nursing education on appropriate urine culture collection, use of root cause analysis (RCA) tools to identify problem areas, and nurse driven removal protocols when catheters are no longer indicated. Despite some decreased catheter utilization rates, CAUTIs continued to occur. Data obtained through RCAs revealed a trend of catheter re-insertions due to urinary retention. A nurse driven pathway was developed using bladder scan and straight catheterization protocols with emphasis on not re-inserting catheters.

Values	2016	2017	2018	2019	2020
Number of CAUTI Cases	69	40	46	46	23
Indication for Catheter: Critical Monitoring	100%	100%	52%	43%	52%
Indication for Catheter: Acute Retention	7%	15%	24%	54%	35%
Indication for Catheter: Prolonged Immobilization Following Trauma or Surgery	13%	5%	7%	7%	0%
Indication for Catheter: Stage 3 or 4 Sacral Ulcer	4%	5%	7%	7%	0%
Indication for Catheter: Urological Surgery	7%	0%	4%	0%	4%
Indication for Catheter: Hospice	1%	0%	2%	2%	0%
Indication for Catheter: Diagnostic Testing or CBI	1%	0%	0%	0%	0%
Indication for Catheter: Does Not Meet Criteria	1%	13%	13%	7%	4%

Figure 1. CAUTI RCA Catheter Indication Data

## Study Aim

By utilizing an algorithm for monitoring patients after catheter removal, which includes routine bladder scan assessment and intermittent urinary catheterization if applicable, this study aimed to reduce the incidence of reinsertion of an indwelling catheter. Decreased re-insertion rates contribute to decreased urinary catheter utilization days and decreased risk for CAUTIs.

## Methods

- This protocol was implemented on four nursing units (B5, I6/F5S, C6W, P4).
- A multidisciplinary approach was taken to develop an algorithm for monitoring patients after catheter removal.
- Education was provided to nursing and medical staff regarding use of the algorithm, as well as the limited risk to patients when using intermittent straight catheterization if needed.
- Order panels were created within the electronic health record (EHR) to improve compliance with ordering and nursing assessments.
- Patient education was developed to promote compliance and understanding. Patients who required ongoing intermittent catheterization were provided bedside instruction using the teach back method prior to discharge.
- Data was collected through EHR audits for three months.

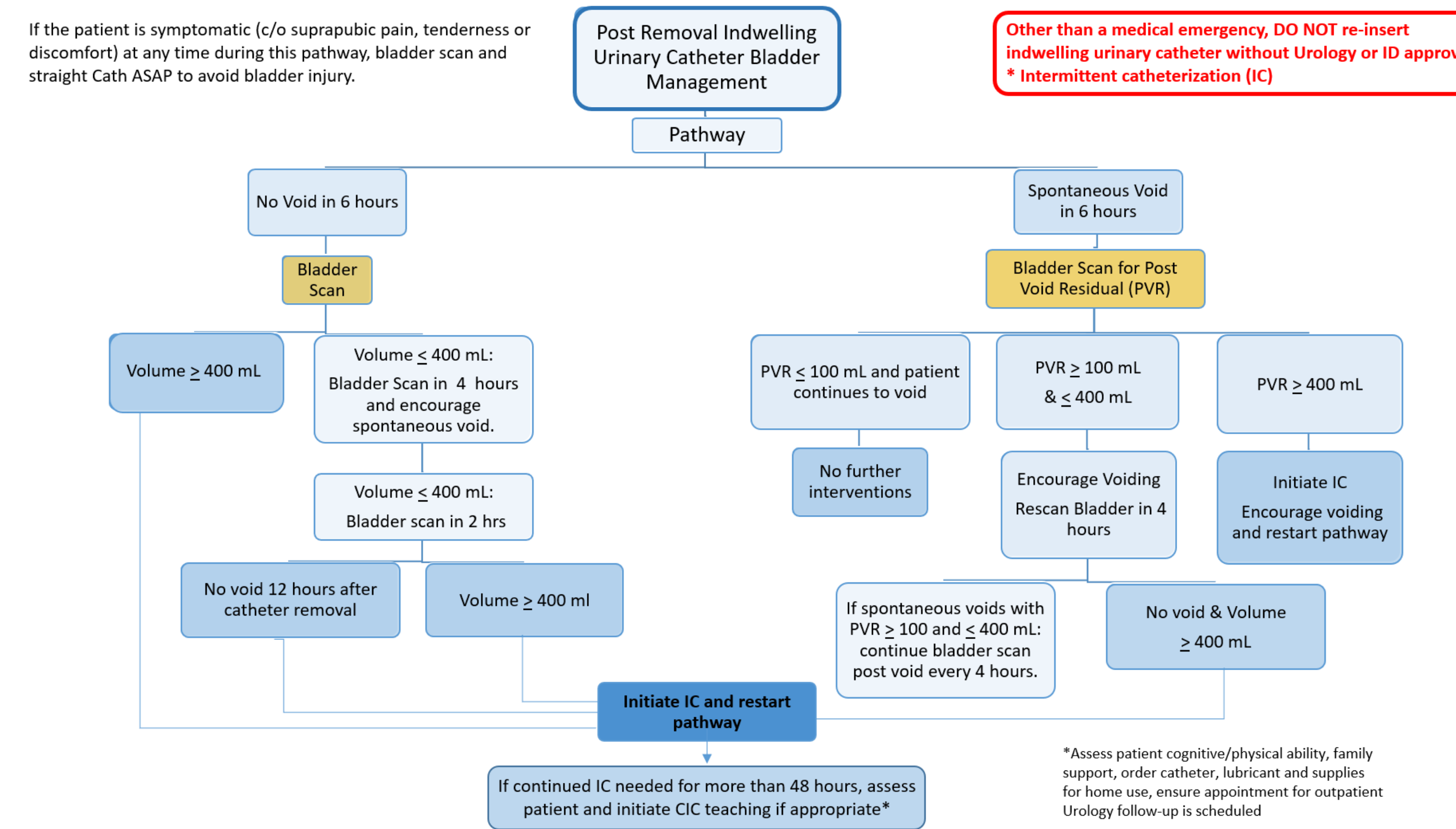


Figure 2. Post Removal Indwelling Urinary Catheter Bladder Management Pathway.

Post this sign on patient's door while on pilot



My Foley catheter was discontinued! I am a part of an initiative to decrease Catheter Associated Urinary Tract Infections! Please refer to the Post Removal Indwelling Urinary Catheter Bladder Management Pathway when caring for me!

Figure 3. UCANP Door Sign

## Results

- Metrics utilized to determine improvement included indwelling catheter utilization days and CAUTI count.
- Catheter days is defined as the number of days an indwelling catheter is in place.
- Each unit was compared to the previous year for the months of September, October, and November.
- The combined decrease of catheter days for all units was 17%, 23%, and 34% for September, October, and November, respectively.

Unit	Sep-19	Sep-20	Difference	Oct-19	Oct-20	Difference	Nov-19	Nov-20	Difference
B5	71	46	-25	47	72	+25	57	48	-9
C6W	244	226	-18	244	181	-63	313	210	-103
F5S	16	19	+3	23	25	+2	26	7	-19
I6	47	32	-15	57	21	-36	62	44	-18
P4	589	478	-111	629	471	-158	468	364	-104
Total/Percent	967	801	-17%	1000	770	-23%	1014	673	-34%

Figure 4. Outcome Data

## Discussion

Reducing the use of urinary catheters can reduce rates of catheter-associated urinary tract infections and their associated morbidities. Development of one standard protocol, in collaboration with urology provider input, and applying it across a variety of patient populations led to increased utilization of the protocol by the nursing staff. Improvement was also seen in nurses' awareness and understanding of urinary retention post catheter removal and using bladder scanning and intermittent catheterization appropriately when needed. Due to the initial success of this project, the UCANP initiative is currently being implemented on additional units and will continue until all patient-care areas of the hospital are included.

## References

