VANDERBILT UNIVERSITY
MEDICAL CENTER
DIVISION OF ACUTE CARE SURGERY

# Trauma Post-Catheter Removal / Urinary Retention Practice Management Guideline

**PURPOSE:**

The purpose of this practice management guideline is to standardize care of the trauma patient who has had a urinary catheter removed and remains unable to void.

**INCLUSION CRITERIA:**

1. Any trauma patient who had an indwelling urinary catheter removed and either does not void after six hours or voids less than 300mL within six hours
2. Any patient who describes symptoms of discomfort, pain, or feeling of bladder fullness
3. Palpable bladder
4. New AKI

**EXCLUSION CRITERIA:**

1. Urinary catheters managed by urology service
2. Urethral/bladder injury
3. Ascites
4. Spinal cord injury
5. Known oliguria

**INTERVENTIONS:**

The following interventions were created for management of urinary retention post-catheter removal to provide standardization to decision-making around urinary catheter reinsertion in the presence of urinary retention.

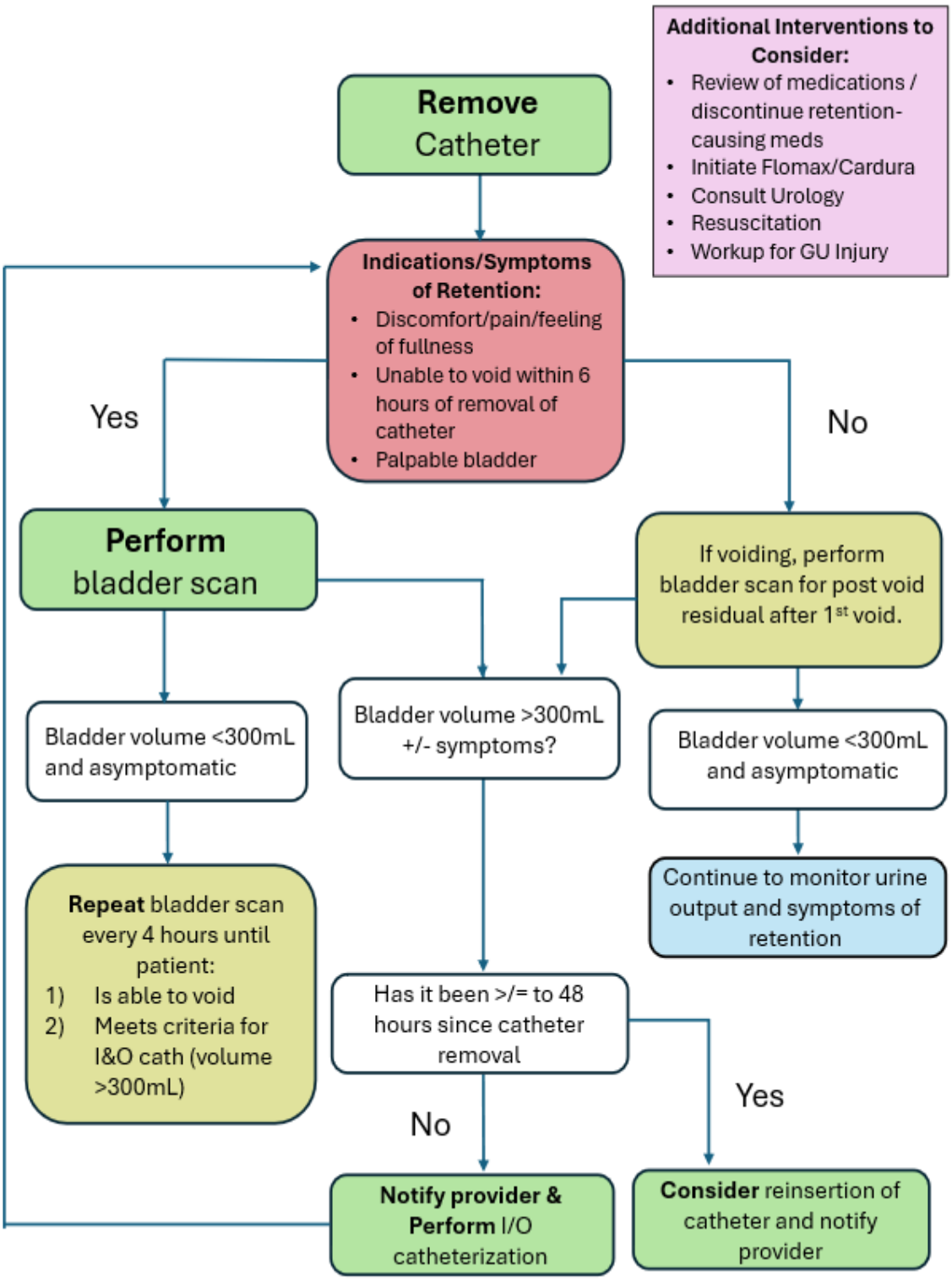
**NURSING:**

- Perform bladder scan if the patient does not void within 6 hours of removal of urinary catheter or 6 hours from last I&O catheterization
    - If bladder scan volume is greater than 300mL
        - obtain order from provider and perform I&O
    - If bladder scan volume is less than 300mL
        - Reassess in 4 hours
        - Notify provider of results and discuss plan
    - For spontaneous voids, obtain PVR and document.

**PROVIDER:**

- Review medical history/medications
    - Prior urinary retention issues at home
    - Home medications for retention
    - Medications being administered in hospital that could contribute to urinary retention
        - Muscle relaxants
        - Haloperidol
        - bladder antispasmodics (e.g., oxybutynin, trospium, Myrbetriq)
        - Tricyclic antidepressants
        - 1st generation antihistamines (i.e., hydroxyzine, diphenhydramine)
        - Opioids
        - scopolamine patch
        - TECs
- Considerations
    - Ongoing resuscitation / workup for GU injury
    - Initiation of Flomax/Cardura after 24 hours of I&O caths
    - Discuss need for urology consult at time of placement of third catheter
- Responsibilities
    - Assess need for urinary catheter every shift
    - Place order for placement and removal of urinary catheters as needed
    - Place order for q6hr PRN I&O catheterization if patient unable to void spontaneously
        - Consider increasing frequency of I&O caths to q4hr if high volume
    - **Do not allow urinary catheters to be replaced** (with the sole rationale being urinary retention) before the 48-hour mark has been reached since urinary catheter removal.

# Post Catheter Removal/Urinary Retention PMG



**AUTHORS:**

*Sandra Tsay, MSN, AGCNS-BC*
*Bethany Evans, MSN, ACNP-BC*
*Brad Dennis, MD*
*Jill Streams, MD*
*Caroline Banes, DNP, ACNP-BC*
*Kelsey Krause, DNP, ACNP-BC*
*Jennifer Beavers, PharmD*
*Chelsea Tasaka, PharmD*

**REVISION DATES:**

*12/10/2025*

**REFERENCES:**

Beeler, C., Dbeibo, L., Yeap, Y. L., Porter, H., Beeson, T., Schmidt, C. M., House, M. G., Glossenger, A., Kelley, K., & Birdas, T. J. (2022). Real world utilization of nurse-driven urinary catheter removal protocol in patients with epidural pain catheters. *American Journal of Infection Control, 50*(4), 396–399. https://doi.org/10.1016/j.ajic.2021.09.011

Brackmann, M., Carballo, E., Uppal, S., Torski, J., Reynolds, R. K., & McLean, K. (2020). Implementation of a standardized voiding management protocol to reduce unnecessary re-catheterization: A quality improvement project. *Gynecologic Oncology, 157*(3), 487–493. https://doi.org/10.1016/j.ygyno.2020.01.036

Gray, M., Beeson, T., Kent, D., Mackey, D., McNichol, L., Thompson, D. L., & Engberg, S. (2020). Interventions post catheter removal (iPCaRe) in the acute care setting: An evidence- and consensus-based algorithm. *Journal of Wound, Ostomy and Continence Nursing, 47*(6), 601–618. https://doi.org/10.1097/WON.0000000000000704

Jamil, M. L., Wurst, H., Robinson, P., Rubinfeld, I., Suleyman, G., Pollak, E., & Dabaja, A. A. (2022). Urinary catheter alleviation navigator protocol (UCANP): Overview of protocol and review of initial experience. *American Journal of Infection Control, 50*(2), 81–85. https://doi.org/10.1016/j.ajic.2021.06.019

Lilley, T., Teixeira-Poit, S., Wenner, J., Pruitt, J., & Jenkins, M. (2023). Reducing CAUTI in patients with acute urinary retention in the critical care setting: A pilot study with electronic medical record analytics. *American Journal of Infection Control, 51*(2), 135–141. https://doi.org/10.1016/j.ajic.2022.06.005

Reynolds, S. S., Lozano, H., Fleurant, M., & Bhandari, K. (2022). Using statistical process control charts to measure changes from a nurse-driven protocol to remove urinary catheters. *American Journal of Infection Control, 50*(12), 1355–1359. https://doi.org/10.1016/j.ajic.2022.03.005

Shadle, H. N., Sabol, V., Smith, A., Stafford, H., Thompson, J. A., & Bowers, M. (2021). A bundle-based approach to prevent catheter-associated urinary tract infections in the intensive care unit. *Critical Care Nurse, 41*(2), 62–71. https://doi.org/10.4037/ccn2021934

Stoffel, J. T., Peterson, A. C., Sandhu, J. S., Suskind, A. M., Wei, J. T., & Lightner, D. J. (2017). AUA white paper on nonneurogenic chronic urinary retention: Consensus definition, treatment algorithm, and outcome end points. *The Journal of Urology, 198*(1), 153–160. https://doi.org/10.1016/j.juro.2017.01.075

Thomas, K. L. (2016). Reduction of catheter-associated urinary tract infections through the use of an evidence-based nursing algorithm and the implementation of shift nursing rounds: A quality improvement project.

*Journal of Wound, Ostomy and Continence Nursing, 43*(2), 183–187. https://doi.org/10.1097/WON.0000000000000206

Topal, J., Conklin, S., Camp, K., Morris, V., Balcezak, T., & Herbert, P. (2019). Prevention of nosocomial catheter-associated urinary tract infections through computerized feedback to physicians and a nurse-directed protocol. *American Journal of Medical Quality, 34*(5), 430–435. https://doi.org/10.1177/1062860619873170