Postoperative Urinary Retention and Discharge Readiness Following Minimally Invasive Hysterectomy: A Quality Improvement Study

Kori A. Baker

MD/MS Candidate | University of Colorado School of Medicine

School of Medicine
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

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Introduction

Postoperative urinary retention (POUR), defined as the inability to void spontaneously after surgery, is a common complication that can delay discharge, cause discomfort, and increase the risk of urinary tract infection.

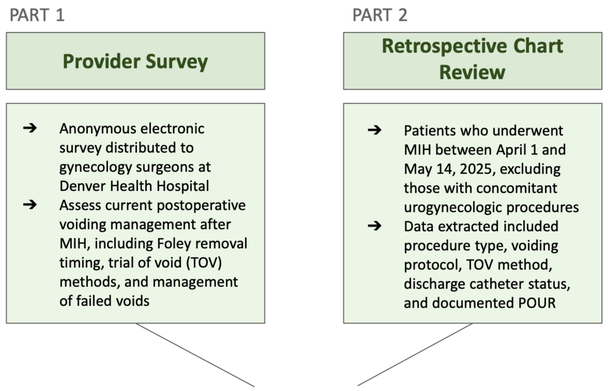
Following minimally invasive hysterectomy (MIH), postoperative bladder management practices vary widely among providers. Some use backfill-assisted trials of void (TOV), others allow spontaneous voiding, and some discharge patients with an indwelling catheter for a home or clinic trial. This variation affects patient comfort, resource utilization, and discharge readiness.

Strategy	Description	When?
Backfill-Assisted Voiding Trial ACTIVE	Fill bladder (300–400 mL), remove Foley, ask patient to void within ~1 hour. Assess voided volume & PVR.	Routine MIH with same-day discharge.
Spontaneous Voiding Trial PASSIVE	Remove Foley and observe for spontaneous void within 4–6 hrs.	Inpatient surgeries with moderate risk.
Discharge with Voiding Instructions PASSIVE	Remove Foley before discharge; no in-clinic trial. Patient returns if unable to void at home.	Healthy, low-risk outpatient patients.
Overnight Foley, Trial Next Day PASSIVE	Foley left overnight; trial done in AM (spontaneous or backfill).	High-risk surgeries (e.g. pelvic floor, long OR time).
Discharge with Foley, Outpatient Trial Later PASSIVE	Foley left in at discharge; formal voiding trial in clinic (24–72 hrs later).	Failed inpatient trial, known voiding dysfunction.

Recent studies suggest that liberal or passive voiding protocols are safe, support same-day discharge, and do not increase POUR rates. However, the lack of standardized institutional guidelines often leads to provider-level variability and inefficiency.

This quality improvement project aimed to evaluate current postoperative voiding management practices and POUR incidence following MIH at Denver Health, with the goal of identifying variation and informing the development of a standardized yet flexible voiding protocol to improve patient outcomes and streamline discharge processes.

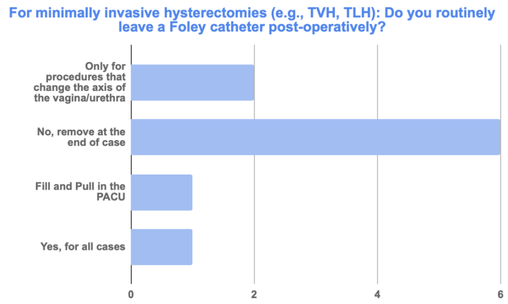
Methodology

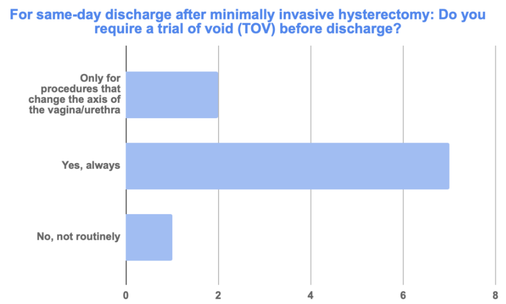


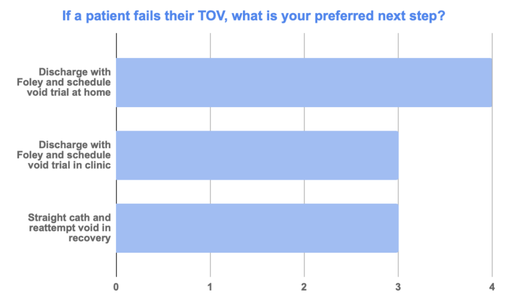
Results

Provider Survey (N=11):

Most providers did not require voiding after minor vaginal (91%) or laparoscopic (82%) procedures. For MIH, 64% removed Foley catheters postoperatively and 73% required a trial of void (TOV) before discharge (45% backfill-assisted, 55% spontaneous). Management after failed TOV varied among providers.







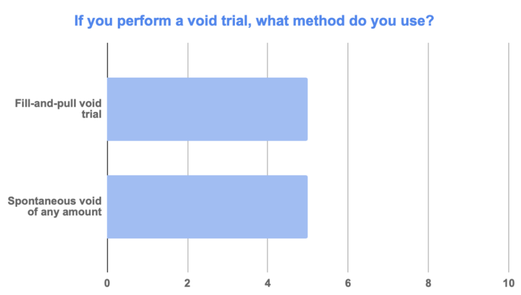


Chart Review (N=20):

65% passive TOV, 20% active TOV, and 10% discharged with Foley. POUR occurred in 5% of patients, with no readmissions or prolonged catheterization. Voiding order documentation was inconsistent. Voiding order documentation was inconsistent among providers.

Discussion

This project highlights how postoperative urinary retention (POUR) remains uncommon after minimally invasive hysterectomy, yet management practices differ widely among providers. The observed variation likely stems from unclear institutional guidance and differing provider experiences. These findings mirror national trends in gynecologic surgery, where standardized voiding protocols are often lacking. The predominance of passive voiding trials and low POUR rate suggest that overly conservative approaches may not be necessary for most patients. Establishing a consistent, evidence-based protocol could reduce uncertainty, improve workflow efficiency, and support patient-centered care without increasing risk.

Conclusion

- **Flexible, patient-centered protocols** appear safe and may support same-day discharge → Lack of a clear institutional guideline contributes to inconsistent care and inefficiencies.

The low POUR rate following MIH likely reflects faster physiologic recovery of bladder function after less invasive procedures, where reduced manipulation and anesthesia time minimize detrusor dysfunction. Thus, liberal or passive voiding protocols may safely support faster, more comfortable discharge. In contrast, more invasive or conservative approaches—such as routine backfill trials or prolonged catheterization—can increase patient discomfort, infection risk, and discharge delays without clear benefit.

Acknowledgements

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