

# Decreasing Post-Operative Urinary Retention in Patients

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## Background

- Post operative urinary retention (POUR) is the inability to urinate after a surgical procedure despite having a full bladder.
- Certain comorbidities may increase the likelihood of patients experiencing urinary retention. These may include but not limited to age  $\geq 50$ , male, renal failure, diabetes, benign prostate hypertrophy and pre-existing voiding issues.
- Other factors leading to urinary retention include anesthesia-type, certain perioperative medications, amount of intra-operative fluids administered and length of procedure.
- When patients experience POUR, the Post Anesthesia Care Unit (PACU) nurses must obtain orders for intermittent straight catheterization. This delays care and negatively impacts the quality-of-care delivery and patient safety, key-drivers to patient satisfaction.

## Objectives

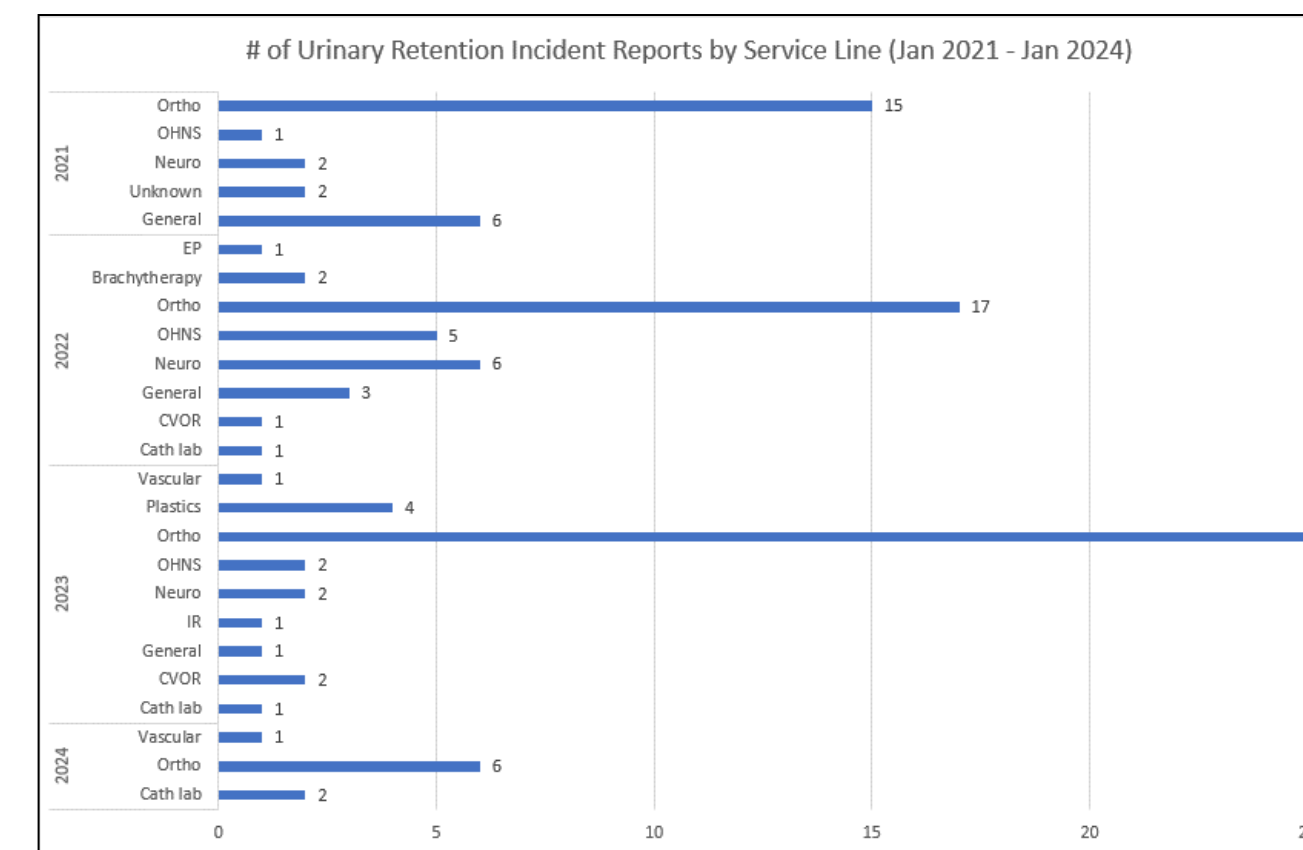
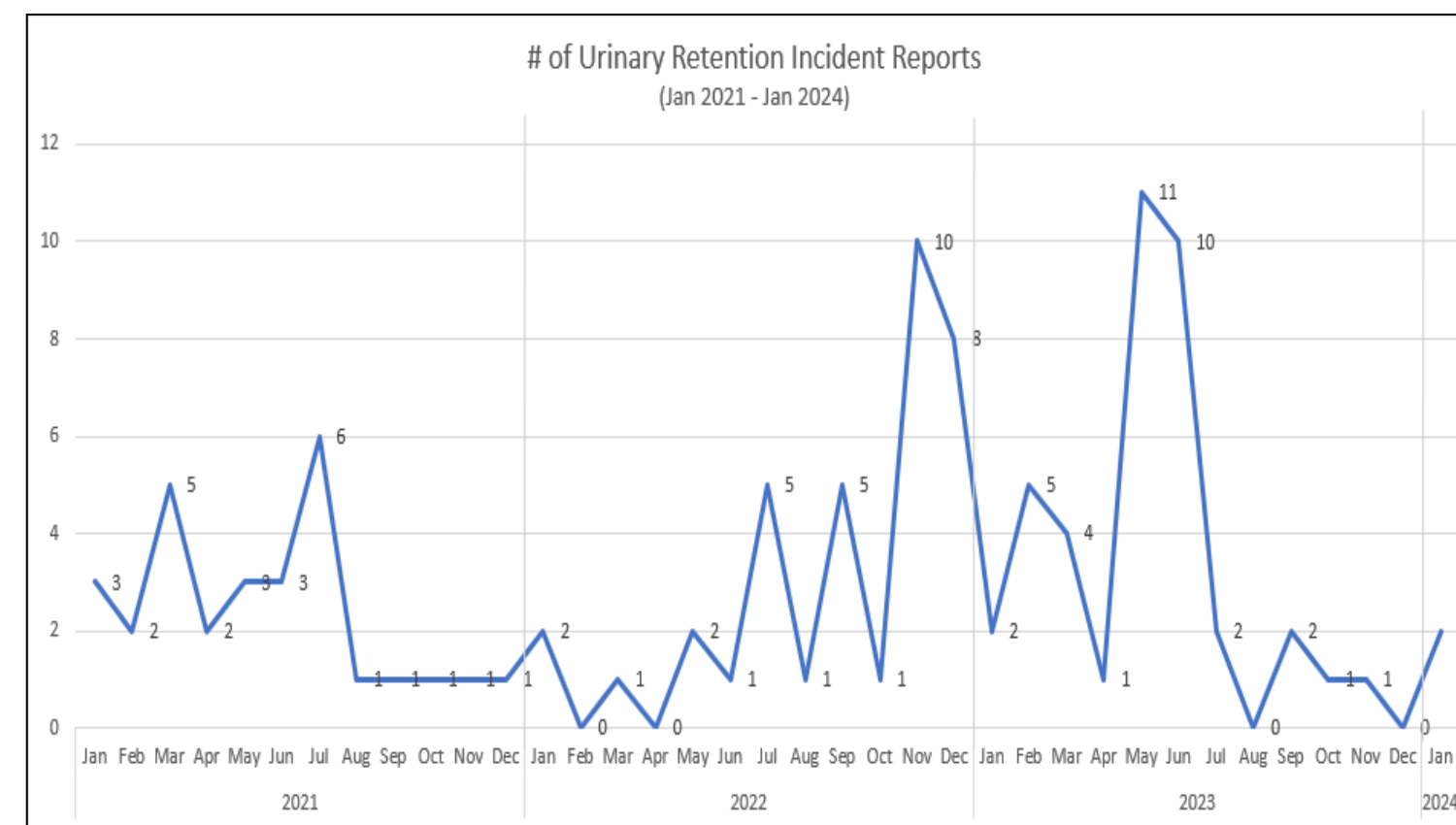
- To yield best outcomes, a POUR program was initiated and implemented preventive measures to reduce the number of patients who experience urinary retention.
- This initiative aimed to reduce the number of patients reported to have experienced urinary retention in the Interventional Platform from 29.1 to 21.85 one-year post implementation.

## Methods

- Retrospective data from January 2021 through September 2023 showed an annual mean average of 29.1 reported patients experienced urinary retention in the PACU.
- Workgroup participants included representatives from Pre-op and PACU, Operating Room, Education, Practice and Quality departments. Roles including nursing staff, leadership and providers were represented.
- The workgroup met monthly to analyze trends, data and incident reports.
- A workflow change was implemented in June 2023, to incorporate an anesthesia order-set.
- The order set permits PACU nurses to perform intermittent straight-catheterization for patients that meet the following criteria:
  - A bladder scan resulting  $>600$  mL
  - Patient with the urge to void but is unable to on their own.

## Results

- Though the study is on-going, the monthly mean average of patients reported to experience POUR has decreased from 2.56 to 1.0 90-days post implementation.
- Analysis showed that our orthopedic patients undergoing primary total hip and knee replacements with spinal anesthesia were at greatest risk for POUR.
  - To address this, anesthesia changed their medication regimen from bupivacaine to mepivacaine, due to a shorter duration of action.
  - Collaboration was undertaken with our primary inpatient orthopedic unit to decrease POUR throughout the continuum of care.



## Conclusions

- POUR creates barriers for PACU nurses with competing priorities that must be addressed before post-operative patients transfer to inpatient units or discharge, decreasing satisfaction for the patient and the nurse.

## Implications

- Implementation of the POUR program has empowered nurses to proactively address when patients meet criteria for catheterization and work collaboratively with anesthesia and surgeons.
- Total number of phone calls and pages made by PACU nurses to the surgical team and time to straight catheterization has significantly decreased.
- Quality, safety and patient satisfaction has greatly improved post implementation in the Perianesthesia department.

## References

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