Prevention and Management of Post-Operative Urinary Retention (POUR) in Joint Replacement Patients Undergoing Spinal Anesthesia

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Abstract Background Information: Post-Operative Urinary Retention (POUR) is a frequent complication in patients receiving spinal anesthesia often defined as the inability to void despite a distended bladder, with volume exceeding 600 cc. Unmanaged POUR may lead to bladder over distention, significant discomfort, altered vital signs, prolonged recovery and increased catheterizations. At a 350-bed Magnet recognized community hospital, Post Anesthesia Care Unit (PACU) nurses relied largely on anesthesiologists' direction, resulting in variable practices. Preliminary data (June-August 2024) revealed a POUR incidence of 42.7% (44/103 patients), with 21.6% requiring catheterization and an average PACU length of stay (LOS) of 96 minutes. These results underscored the need for a standardized nurse-driven protocol.

Objectives of Project: To design, implement and evaluate a standardized nursing protocol supporting early identification, prevention, and management of POUR in joint replacement patients receiving spinal anesthesia.

Process of Implementation: Guided by the IOWA Model of Evidence-Based Practice, a two-member PACU team collaborated with the Department of Anesthesia and Joint Replacement coordinators. Following a comprehensive literature review, the team developed an algorithm that incorporated a POUR Prevention Bundle with defined inclusion and exclusion criteria, specifically targeting joint replacement patients receiving spinal anesthesia. Prior to pilot implementation in January 2025, staff were educated on algorithm, use of bladder scanner, and data collection procedures.

Statement of Successful Practice: Between February and April 2025, POUR incidence decreased from 42.7% to 8.6%. Catheterization rates dropped from 21.6% to 5%. Average PACU LOS was reduced by 30 minutes. These findings demonstrate that standardized nurse-led protocols combined with enhanced nursing vigilance autonomy effectively reduce POUR incidence, catheterizations, and recovery time while improving postoperative outcomes.

Implications for Advancing the Practice of Perianesthesia Nursing: This project highlights that nurse-driven, evidenced-based POUR management enhances patient safety, decreases complications, minimizes delays, and improves satisfaction. Implementation of standardized protocols supports nursing workflow efficiency and empowers perioperative nurses to deliver high-quality autonomous care.