

Evidence-Based Change in Urinary Incontinence Management: Benefits of Female External Urinary Catheter Systems in ICU Settings

Angelika Braslavskiy RN, BSN, CCRN; Anastasia Klimchenia, RN, BSN, CCRN, CMC

Imagine lying in an intensive care unit bed, unable to move, completely dependent on others—even to use the bathroom. For many critically ill women, urinary incontinence is not just uncomfortable—it is humiliating, painful, and dangerous. Left unmanaged, it can lead to severe skin damage, pressure ulcers, and life-threatening infections. But what if one simple, non-invasive device could change all of that?

In intensive care settings, immobile patients rely on staff to meet all basic needs, including hygiene and elimination. A major challenge is managing urinary incontinence (UI), which can cause emotional distress and serious skin complications like incontinence-associated dermatitis (IAD) and pressure ulcers (PUs) (Avsar & Karadag, 2018). These issues delay recovery and reduce the quality of care.

Traditionally, female ICU patients are treated with indwelling urinary catheters (IUCs), which carry a significant risk of catheter-associated urinary tract infections (CAUTIs) (Gupta et al., 2017) – a possibly life-threatening condition (Zavodnick et al., 2020). These infections contribute to more than 13,000 deaths annually and cost the U.S. healthcare system over \$340 million each year (Centers for Disease Control and Prevention [CDC], 2022). As healthcare shifts toward safer, evidence-based practices, female external urinary catheters (FEUCs) have emerged as a promising alternative (Baxter et al., 2025).

Historically, external urinary devices were designed primarily for men, leaving

female patients with limited options. However, recent innovations—known as external urinary diversion and female absorbent (EUDFAs) devices—have been developed for the female anatomy and have shown strong potential to reduce IUC use and improve outcomes (Beeson et al., 2023).

Beeson et al. (2023) showed that EUDFAs successfully diverted 85.5% of urine, while IUC usage decreased from 43.9% to 36.6% over three years. The incidence of IAD dropped from 69.2% to 39.5%. A study by Pryor et al. (2024) reported a 54% decrease in CAUTI rates with the use of structured FEUC protocols. These results demonstrate that success relies not just on the device itself, but also on its thoughtful integration into clinical workflows.

Multidisciplinary collaboration is essential. Nurses and aides manage device application and monitoring. Hospital leadership must support the effort with staff education and adequate supplies. Informatics teams track metrics like IUC rates and CAUTI incidence. Together, these components ensure sustainability and patient-centered success.

When implemented using Pressure Ulcer and Continence Strategies (PUCS), the shift to FEUCs offers multiple benefits: less bacterial entry into the urethra, fewer IAD and hospital-acquired pressure injuries (HAPIs), and greater patient comfort. An ICU nurse in our pilot unit shared, “FEUCs save time and reduce patient stress. I wish we’d had them years ago.”

Nurses report that the devices are easy to use, improve urine output accuracy, and

reduce time spent on IAD management.

Improving incontinence management is not just a clinical priority—it’s a moral one. Female external urinary catheters, when integrated thoughtfully into care protocols, offer a compelling, evidence-based solution. As nurses, we must lead efforts that uphold dignity, safety, and quality. Adopting FEUCs brings us one step closer to a more compassionate and effective standard of care. ■

REFERENCES:

- Avsar, P., & Karadag, A. (2018). Efficacy and cost-effectiveness analysis of evidence-based nursing interventions to maintain tissue integrity to prevent pressure ulcers and incontinence-associated dermatitis. *Worldviews on Evidence-Based Nursing*, 15(1), 54–61. <https://doi.org/10.1111/wvn.12264>
- Baxter, C. M., Matthews, C. L., Zamarripa, C., Johnston, J. R., Lane, R., Chung, A., Palladino, K., Kip, P. L., Zapf, R. L., Wagester, S., & Snyder, G. M. (2025). Implementation of an external female urinary catheter strategy on prevention of skin breakdown in acute care: A quality improvement study. *Journal of Clinical Nursing*, 34(1), 299–307. <https://doi.org/10.1111/jocn.17356>
- Beeson, T., Pittman, J., & Davis, C. R. (2023). Effectiveness of an external urinary device for female anatomy and trends in catheter-associated urinary tract infections. *Journal of Wound, Ostomy, and Continence Nursing*, 50(2), 137–141. https://journals.lww.com/jwoconline/fulltext/2023/03000/effectiveness_of_an_external_urinary_device_for.10.aspx
- Centers for Disease Control and Prevention. (2025). Urinary tract infection (Catheter-associated urinary tract infection [CAUTI] and non-catheter-associated urinary tract infection [UTI]) events. U.S. Department of Health and Human Services. <https://www.cdc.gov/nhsn/pdfs/pscmanual/7psccauticurrent.pdf>

Gupta, S., Irukulla, P., Shenoy, M., Nyemba, V., Yacoub, D., & Kupfer, Y. (2017). Successful strategy to decrease indwelling catheter utilization rates in an academic medical intensive care unit. *American Journal of Infection Control*, 45(12), 1305–1307. <https://doi.org/10.1016/j.ajic.2017.06.020>

Pryor, N., Wang, J., Young, J., Townsend, W., Ameling, J., Henderson, J., & Meddings, J. (2024). Clinical outcomes of female external urine wicking devices as alternatives to indwelling catheters: A systematic review and me-

ta-analysis. *Infection Control & Hospital Epidemiology*, 45(9), 1–9. Advance online publication. <https://doi.org/10.1017/ice.2024.73>

Zavodnick, J., Harley, C., Zabriskie, K., & Brahmabhatt, Y. (2020). Effect of a female external urinary catheter on incidence of catheter-associated urinary tract infection. *Cureus*, 12(8), e11113. <https://doi.org/10.7759/cureus.11113>

Saint Peter's Healthcare System Recognizes Accomplished Nurse at Annual Gala

Saint Peter's Healthcare System celebrated its community partners, physicians and nurses whose dedication to the hospital, its patients, and the community at large was recognized at its annual gala held on Thursday, May 8, at The Palace at Somerset.

Judith T. Caruso, DNP, MBA, RN, NEA-BC, FACHE, president, Caruso Consulting, was recognized with the 2025 Bishop's Award. This award is bestowed upon the honoree by The Most Reverend James F. Checchio, Bishop of the Diocese of Metuchen, sponsor of Saint Peter's Healthcare System.

Judith Caruso is an accomplished nursing professional whose dynamic career spans clinical practice, education, leadership, and consulting. In 1978, she became one of New Jersey's first perinatal clinical nurse specialists at Overlook Medical Center in Summit, NJ, establishing a role that was only emerging in health care at that time. Over the following four decades, Caruso has led transformative initiatives in staffing, quality improvement, and performance enhancement, helping healthcare organizations navigate complex chal-

lenges. She practices the principle of being "a constant learner and mentor" by helping others grow.

As a member of Saint Peter's Healthcare System's Board of Governors, specifically as chair of the Board's Quality and Safety Committee, Caruso has significantly contributed to the organization's high standards of care to provide individuals with exceptional experience. She has generously supported a wide range of initiatives at Saint Peter's, including the renovation of the Emergency Department, the Simulation Center for Interprofessional Learning, and the Mary V. O'Shea Birth Center. Her volunteer efforts with the Organization of Nurse Leaders of New Jersey have helped to improve healthy work environments for nurses and share research findings to inform the profession, especially at Saint Peter's. As an avid golfer, Caruso is also a friendly face on the greens at many Saint Peter's golf outings.

As the first in her family to attend college, Caruso's dedication to nursing education is also evident through the scholarship established in her family's name at Rutgers School of Nursing, where



she completed her studies. She holds a Doctor of Nursing Practice (DNP) from Rutgers School of Nursing, a Master of Business Administration from the Wharton School of Business at the University of Pennsylvania, a Master of Science in Nursing in Maternal-Child Health Nursing from Rutgers University, and Bachelor of Science and Associate of Science degrees from Rutgers School of Nursing.

All proceeds from Saint Peter's Gala will directly benefit Saint Peter's University Hospital. For more information, please visit <https://www.saintpetershcs.com/donate/saint-peter-s-foundation>. ■