



## Urinary Catheterization Procedure-an Observational Study

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### Abstract

**Background:** Urinary tract infections are the most common hospital infection, accounting for up to 40% of infections reported by health care institutions.

**Objective:** Evaluation of the implementation of basic rules on the technique of insertion of urinary catheter by nurses during the performance of this nursing procedure.

**Methods:** The observational study included 32 nurses and 32 patients who were catheterized during the study period, in May 2017, at the Vlore Regional Hospital. Nurses and patients were randomly selected. For the assessment of the application of the steps of the urinary catheterization procedure, a questionnaire was used in the form steps, where all steps of the correct procedure of urinary catheterization were presented. 87.50% of nurses were women and 12.50% were males. Mean age of nurses 35.875 years, age range [29-55]. Bachelor level education was prevalent, 50%. In catheterized patients female gender dominated with 68.75%, age range [37-88] years old. The results for the implementation of the steps in the procedure of urinary catheter insertion revealed that some of the most important steps of this procedure were not implemented by any nurse or implemented by some of them. Hygiene of the perineal area was not applied by any nurses. Hand hygiene was applied only by 43.75% of nurses and 56.25% of nurses did not wear sterile gloves during the procedure.

**Conclusion:** Proper application of all urinary catheterization procedure steps is very important for the prevention of urinary tract infections associated with catheterization. Continuing education and increasing the professional awareness of clinical practice nurses related to this nursing procedure are essential for the quality and safety of care provided to the patient.

**Keywords:** Catheterization; Urinary tract infection; Catheterized patients; Procedure; Nursing care

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### Short Communication

Catheter-Associated Urinary Tract Infections (CAUTIs) account for approximately 40% of all healthcare-associated infections, accounting for >1 million cases in hospitals and nursing homes [1]. The risk of Urinary Tract Infections (UTIs) increases with increasing duration of catheterization [2]. In addition CAUTIs are not common but also costly and potentially deadly. However, effective prevention strategies are underutilized, particularly for CAUTIs. A study found that an intervention yielding clinically feasible reductions in catheter use can lead to an estimated 50% reduction in CAUTI-related costs [3,4]. As urinary catheters account for most healthcare-associated urinary tract infections, evidence suggests that different nursing interventions such as staff education, ongoing monitoring of CAUTI incidence, monitoring catheter insertion and ensuring prompt removal and careful attention to techniques for catheterization and catheter care are essential elements of CAUTI prevention [5]. Several guidelines have been developed or updated recently for the prevention of CAUTI [6]. Proper techniques for urinary catheter insertion; perform of hand hygiene immediately before and after insertion or any manipulation of the catheter device or site are part essential of the strategies to prevent CAUTIs. In addition, in the acute care hospital setting, insert urinary catheters using aseptic technique and sterile equipment; use sterile gloves, drape, sponges, an appropriate antiseptic or sterile solution for periurethral cleaning and a single-use packet of lubricant jelly for insertion are also part of prevention [7]. Prevention of CAUTIs also relies on the provision of appropriate nursing care. This can be in both ensuring the use of proper techniques for both insertion of the catheter and also the ongoing maintenance of the catheter. Only trained practitioners should be inserting urinary catheters and this should be done using an aseptic technique and sterile equipment [8]. Infection control programs in health care facilities must implement and monitor strategies to limit catheter-acquired urinary infection, including surveillance of catheter use, appropriateness of catheter indications and complications [9]. A quality improvement programs or strategies to enhance appropriate use of indwelling catheters

and to reduce the risk of CAUTI based on a facility risk assessment must include guidelines and protocols for nurse-directed removal of unnecessary urinary catheters and education and performance feedback regarding appropriate use, hand hygiene and catheter care [7]. The observational study conducted in Albania, in the Regional Hospital of Vlore city evidenced that most of important steps of urinary catheter insertion procedure for the prevention of CAUTIs were not implemented by any nurse or implemented only by some of them. Steps that were not performed by any nurse were hygiene of the perineal area. About half of nurses performed hand hygiene during procedure and 56, 26% of them did not wear sterile gloves. Our findings suggest that technical interventions for CAUTIs are underutilized [10]. Proper application of all urinary catheterization steps is very important for the prevention of urinary tract infections associated with catheterization. Therefore, catheters should only be used for appropriate indications and should be removed as soon as they are no longer needed [11].

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