



**Service Priorities and Programmes**  
**Electronic Presentations**

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**Contamination in Collecting Mid Stream Urine Specimen - How to Tackle?**

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**Keywords:**

Contamination of specimen

Collecting Mid-stream Urine

Knowledge and skill enhancement

Proper genital cleansing prior collection

**Introduction**

Urinary tract infection (UTI) is the most common healthcare associated adverse event and the leading nosocomial complication following joint prosthesis surgery (F. Stephan et al 2006). Retrospective data in 2011 indicated mid-stream urine (MSU) contamination rate (40%) was much higher than catheter-specimen urine (CSU)(16%). Local survey revealed nurses had various practices on performing genital cleansing before MSU collection, but some deviated from good practice that minimized contamination of MSU specimens. Improper genital cleansing prior MSU specimen collection seemed to be a crucial contributing factor on contamination which lead to delay diagnosis and treatment; unnecessary antibiotic therapy or repetition of investigation.

**Objectives**

(1) To enhance knowledge and skill on proper genital cleansing and MSU collection procedure among nurses and patients; (2) To minimize MSU contamination rate, thus, facilitating prompt treatment for patients having UTI.

**Methodology**

1. Nurses instructed patients to collect MSU themselves by 'Chinese instruction sheet'. If patients were incapable, nurses would assist them by following the proper genital cleansing procedure. Outcome study conducted by comparing the number of contaminated MSU specimens during the data collection period. 2. In-service training sessions were arranged for nurses to enhance knowledge on UTI and standardized skills on genital cleansing. A 'Work Instruction Sheet on MSU collection' was formulated to emphasize the proper genital cleansing technique. Pre and post quiz were employed to assess their attitude towards MSU collection and knowledge level on UTI. Concurrent audits were conducted to assess nurses' compliance on instructing patients and their skills when assisting patients for MSU specimen collection.

**Result**

From August 2012 to January 2013, there were 37 MSU specimens collected and

10.7% (6 samples) were contaminated. The contaminated MSU percentage was lower as compared with the half-yearly average of 2011 (26.2%). Nurses' knowledge level was enriched as shown by the quiz result. Average correct answer for pre-quiz was 64.6% while 71.8% for post-quiz. Nurses had 100% compliance audit result on genital cleansing and MSU collection procedure. After the programme, all nurses adopt a standardized protocol to collect MSU specimens. Conclusion: The program is helpful to tackle the MSU contamination problem - a minor skill enhancement minimizes contamination of MSU specimens. It enhances nurses' knowledge on UTI and MSU collection procedure. It promotes nurse-patient communication on MSU collection.