

# Mid-stream urine collection in the Emergency setting for culturally and linguistically diverse patients

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## Introduction

Mid-stream urine collection in the Emergency Department (ED) forms part of the assessment process for patients presenting with abdominal pain. The ability to provide non-contaminated urine samples is highly dependent on the patients understanding of the correct collection technique.

## Research objectives

The purpose of this research is to (i) identify the need and (ii) develop an education tool to reduce the number of contaminated mid-stream urine samples collected in the ED from adult female culturally and linguistically diverse (CALD) patients.

## Method

Data identifying both the total number of adult female urine M/C/S collected and the total number of repeat tests was collected through pathology records.

A patient survey was conducted amongst female patients which included demographic data such as language, culture, age and preference of picture sequence of urine collection technique.

This survey identified that more than 50% of adult female patients presenting to the ED were from culturally and linguistically diverse populations.

A staff survey was conducted to explore the barriers faced when providing adequate education. A total of 105 staff survey responses were provided. Trends that emerged were 94% of respondents provided correct verbal explanation, 80% of respondents identified language as the greatest barrier.

## Results

Of the 5,838 M/C/S collected, there were 1,551 repeat tests required (or 27%).

Analysis of the both patient and staff surveys found that language, culture and knowledge provided barriers to understanding collection techniques when verbal instructions were provided. Verbal education being provided predominantly at the triage desk on arrival to the ED

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Based on the results, an instructional video of the correct collection technique has been developed with text banners for each step translated into the top 20 languages identified within the Metro South HHS.

## Discussion

The cost of a single urine M/C/S is \$23.01, with the cost of recollections \$35,688.00.

The cost implication of contaminated samples in the ED, extended wait times and delay in diagnosis and treatment were the catalyst for investigating methods to reduce the incidence of contaminated samples in the ED.

Research identified three themes - knowledge, cultural and linguistic barriers - as contributing to the high incidence of repeat testing with CALD patients.

The objective of this research evolved from cost effective testing to a patient focussed targeted education for CALD patients. A short instructional video of the correct collection technique was developed with translation into 20 of the most frequent languages presenting to the hospital. This will

be accessed via a QR code which provides privacy to view this sensitive content.

## Limitations

Religious differences  
Lack of privacy at Triage  
Cultural sensitivity  
Discomfort with personal issues  
Lack of familiarity of medical information  
Language barriers  
Fear of unknown  
Personal experiences  
Unfamiliarity with the concept  
Unfamiliar mobile phone use/QR code use  
No access to mobile telephone

## Conclusion

An educational video in multiple languages was borne out of a patient survey conducted within the ED in an attempt to identify measures to reduce the cost associated with contaminated M/C/S urine testing. A recurring theme emerged, identifying CALD patients as the target audience and that this barrier to health education could a contributing factors to the misunderstanding and poor collection technique. The need for repeat urine testing contributes to extended wait times and increased length of stay due to waiting for repeat results, delay in treatment and diagnosis. This can result in inappropriate treatment, antimicrobial inconsistencies and patient dissatisfaction.

## Selected references

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