

CADTH RAPID RESPONSE REPORT: REFERENCE LIST

# Point-of-Care Urine Dipstick Testing for Suspected Urinary Tract Infections for Adults: Diagnostic Accuracy

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## Research Question

What is the comparative diagnostic accuracy of point-of-care urine dipstick testing versus microscopic urinalysis in adult patients who present urinary tract infections in the emergency room or primary care setting?

## Key Findings

One systematic review and two non-randomized studies were identified regarding point-of-care urine dipstick testing for suspected urinary tract infections in the emergency department or primary care setting for adults.

## Methods

A limited literature search was conducted on key resources including PubMed, the Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and February 12, 2019. Internet links were provided, where available.

## Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

**Table 1: Selection Criteria**

<b>Population</b>	Adult patients (>19 years of age) presenting to the emergency department or in primary care with suspected urinary tract infection.
<b>Intervention</b>	Point-of-care urine dipstick testing through leukocyte esterase screening; point-of-care dipstick testing using an automated reader through leukocyte esterase screening
<b>Comparator</b>	Urine microscopy looking through white blood cell screening
<b>Outcomes</b>	Diagnostic accuracy (e.g., specificity, sensitivity, positive or negative predictive values, area under the curve)
<b>Study Designs</b>	Health technology assessment, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies

## Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials and non-randomized studies.

One systematic review and two non-randomized studies were identified regarding point-of-care urine dipstick testing for suspected urinary tract infections in the emergency department and primary care for adults. No health technology assessments, meta-analyses or randomized controlled trials were identified.

Additional references of potential interest are provided in the appendix.

### Health Technology Assessments

No literature identified.

### Systematic Reviews and Meta-analyses

1. Cameron AP, Rodriguez GM, Schomer KG. Systematic review of urological followup after spinal cord injury. *J Urol*. 2012 Feb;187(2):391-397.  
[PubMed: PM22177149](#)

### Randomized Controlled Trials

No literature identified.

### Non-Randomized Studies

2. Hessdoerfer E, Jundt K, Peschers U. Is a dipstick test sufficient to exclude urinary tract infection in women with overactive bladder? *Int Urogynecol J*. 2011;22(2):229-232.  
[PubMed: PM20838986](#)
3. Khasriya R, Khan S, Lunawat R, et al. The inadequacy of urinary dipstick and microscopy as surrogate markers of urinary tract infection in urological outpatients with lower urinary tract symptoms without acute frequency and dysuria. *J Urol*. 2010 May;183(5):1843-1847.  
[PubMed: PM20303096](#)

## Appendix — Further Information

### Previous CADTH Reports

4. Point-of-care urine testing for suspected urinary tract infections in the emergency department: diagnostic accuracy, clinical utility, and guidelines. (CADTH rapid response report: summary of abstracts). Ottawa (ON): CADTH; 2017: <https://www.cadth.ca/sites/default/files/pdf/htis/2017/RB1174%20POC%20UTI%20Testing%20in%20ER%20Final.pdf> Accessed 2019 Feb 15.
5. Urine testing in long-term care: clinical and cost effectiveness. (CADTH rapid response report: summary of abstracts). Ottawa (ON): CADTH; 2014: <https://www.cadth.ca/sites/default/files/pdf/htis/jan-2015/RB0764%20Urine%20Testing%20Utility%20Final.pdf>. Accessed 2019 Feb 14.

### Non-randomized Studies

#### *Alternative Setting*

6. Mandal J, Sagili H, Lakshminarayanan S, Parija SC. Utility of urine dipstick test for the screening of urinary tract infection in catheterized women following gynecological surgeries. *J Obstet Gynaecol India*. 2015 Dec;65(6):401-404. [PubMed: PM26664000](https://pubmed.ncbi.nlm.nih.gov/26664000/)
7. Tan PC, King AS, Omar SZ. Screening for urinary tract infection in women with hyperemesis gravidarum. *J Obstet Gynaecol Res*. 2012 Jan;38(1):145-153. [PubMed: PM21955280](https://pubmed.ncbi.nlm.nih.gov/21955280/)

#### *Alternative Intervention*

8. Sterry-Blunt RE, Randall KS, Doughton MJ, Aliyu SH, Enoch DA. Screening urine samples for the absence of urinary tract infection using the sediMAX automated microscopy analyser. *J Med Microbiol*. 2015;64(6):605-609. [PubMed: PM25855757](https://pubmed.ncbi.nlm.nih.gov/25855757/)

#### *Alternative Comparator*

9. Kocer D, Sariguzel FM, Ciraci MZ, Karakukcu C, Oz L. Diagnostic accuracy of a new urinalysis system, DongJiu, for diagnosis of urinary tract infection. *Ann Clin Lab Sci*. 2015 Fall;45(6):686-691. [PubMed: PM26663800](https://pubmed.ncbi.nlm.nih.gov/26663800/)