



TITLE: Treatment of Urinary Tract Infections in the Elderly: Clinical Effectiveness and Guidelines

DATE: 03 February 2015

RESEARCH QUESTIONS

1. What is the comparative clinical effectiveness of long-term antibiotic prophylaxis and treatment of urinary tract infections (UTIs) in the elderly?
2. What are the evidence-based guidelines regarding the management of UTIs with antibiotics in the elderly?

KEY FINDINGS

Two evidence-based guidelines regarding the management of UTIs with antibiotics in the elderly were identified.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2015, Issue 1), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. To address research question one, no filters were applied to limit the retrieval by study type. To address research question two, methodological filters were applied to limit retrieval to guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2010 and January 28, 2015. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

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SELECTION CRITERIA

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

Population	Q1: Elderly patients at risk of UTIs Q2: Elderly patients with UTIs (subpopulations including: indwelling catheter versus no indwelling catheter, critically ill patients)
Intervention	Q1: Antibiotic prophylaxis for UTI prevention Q2: Management of UTIs with antibiotics
Comparator	Q1: Acute treatment for UTIs Q2: None
Outcomes	Q1: Clinical effectiveness (development of multi-drug resistance UTIs) Q2: Guidelines and recommendations (drug, dose, and length of treatment)
Study Designs	Health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines

UTI = urinary tract infection

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, non-randomized studies, and evidence-based guidelines.

Two evidence-based guidelines regarding the management of UTIs with antibiotics in the elderly were identified. No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, or non-randomized studies were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Two evidence based guidelines^{1,2} regarding the management of UTIs in the elderly were identified. The guidelines were targeted towards adults in general, including but not limited to the elderly.

Both guidelines^{1,2} make recommendations against antibiotic prophylaxis for UTIs as well as antibiotic treatment of asymptomatic bacteriuria in catheterized patients, suggesting treatment only for symptomatic infection.

The guideline by the Scottish Intercollegiate Guidelines Network¹ recommended that all women with symptomatic UTIs be treated with a three day course of trimethoprim or nitrofurantoin, and that care be taken when prescribing nitrofurantoin to elderly women due to possible increased risk of toxicity. It recommends that adult men be treated with a quinolone if presenting with symptoms suggestive of prostatitis.¹

The guideline by the European Association for Urology² does not recommend chronic antibiotic suppressive therapy for the prevention of UTIs. Regarding treatment, it suggests broad spectrum antibiotics for empirical therapy with adjustment based on pathogen sensitivity once culture results become available.

REFERENCES SUMMARIZED

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

No literature identified.

Guidelines and Recommendations

1. Management of suspected bacterial urinary tract infection in adults [Internet]. Edinburgh (GB): Scottish Intercollegiate Guidelines Network; 2006 Jul. [cited 2015 Feb 2; updated 2012 Jul]. (Guideline No 88). Available from: <http://www.sign.ac.uk/guidelines/fulltext/88/index.html>
See: Management of Bacterial UTI in Adult Women, page 7.
Management of Bacterial UTI in Adult Men, page 8.
Management of Bacterial UTI in Patients with Catheters, page 8.
2. National Guideline Clearinghouse [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); [1997] - . Guideline summary: Catheter-associated UTIs. In: Guidelines on urological infections; 2011 Mar [cited 2015 Feb 2]. Guideline summary available from: <http://www.guideline.gov/content.aspx?id=34100>
Full text available from: http://www.uroweb.org/gls/pdf/15_Urological_Infections.pdf
See: Prevention, page 40.
Treatment, pages 40 to 41.

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APPENDIX – FURTHER INFORMATION:

Systematic Reviews and Meta-Analyses – Unclear Population

3. Niël-Weise Barbara S, van den Broek Peterhans J, da Silva Edina MK, Silva Laercio A. Urinary catheter policies for long-term bladder drainage. *Cochrane Database Syst Rev*. 2012 Aug 15;8:CD004201.
[PubMed: 22895939](#)

Clinical Practice Guidelines

4. Diagnosis and management of urinary tract infection in long term care facilities. *Clinical Practice Guideline* [Internet]. Edmonton (AB): Towards Optimal Practice; January 2015 [cited 2015 Feb 2]. Available from:
http://www.topalbertadoctors.org/cpgs/?sid=15&cpg_cats=66&cpg_info=41
See: Recommendations, page 1.
5. Hooton TM, Bradley SF, Cardenas DD, Colgan R, Geerlings SE, Rice JC, et al. Diagnosis, prevention, and treatment of catheter-associated urinary tract infection in adults: 2009 international clinical practice guidelines from the Infectious Diseases Society of America. *Clin Infect Dis* [Internet]. 2010 [cited 2015 Feb 2];50(5): 625-663. Available from:
<http://cid.oxfordjournals.org/content/50/5/625.full>
See: Prophylaxis with Systemic Antimicrobials, page 628.

Review Articles

6. Mody L, Juthani-Mehta M. Urinary tract infections in older women: a clinical review. *JAMA* [Internet]. 2014 Feb 26 [cited 2015 Feb 2];311(8):844-54. Available from:
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194886>
[PubMed: PM24570248](#)
7. Rowe TA, Juthani-Mehta M. Urinary tract infection in older adults. *Aging Health* [Internet]. 2013 Oct [cited 2015 Feb 2];9(5). Available from:
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3878051>
[PubMed: PM24391677](#)
8. Matthews SJ, Lancaster JW. Urinary tract infections in the elderly population. *Am J Geriatr Pharmacother*. 2011 Oct;9(5):286-309.
[PubMed: PM21840265](#)