Canadian Agency for Drugs and Technologies in Health

RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

TITLE: Foley Catheter Removal Following Hip Surgery in Elderly Patients: Benefits, Harms, and Guidelines

DATE: 04 December 2014

RESEARCH QUESTIONS

1. What is the evidence for the benefits or harms of early foley catheter removal versus late foley catheter removal in elderly patients following hip surgery?

2. What are the evidence-based guidelines regarding the timing of foley catheter removal in elderly patients following hip surgery?

KEY FINDINGS

One non-randomized study and one evidence-based guideline were identified regarding the timing of foley catheter removal in elderly patients following hip surgery.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 11), 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 methodological filters were applied to limit 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 November 24, 2014. 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.

SELECTION CRITERIA

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

Table 1: Selection Criteria	
Population	Elderly patients (≥ 65 years old) with a foley catheter following hip surgery
Intervention	Removal of the foley catheter within 48 hours following hip surgery
Comparator	Removal of the foley catheter after ≥48 hours following hip surgery
Outcomes	Q1 • Benefits for early removal (including earlier mobility, patient comfort, decreased risk of infection [UTI] which can lead to delirium, resumption of more 'normal' activities of daily living). • Benefits for late removal (including keep their skin intact if person is incontinent, monitoring of urinary output more easily). • Harms for early removal (including potential for harm to skin integrity if person is incontinent). • Harms for late removal (including potential for UTI, more limited mobility). Q2 • Guidelines for timing of catheter removal
Study Designs	Health technology assessments, 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.

One non-randomized study and one evidence-based guideline were identified regarding the timing of foley catheter removal in elderly patients following hip surgery. No relevant health technology assessments, systematic reviews, meta-analyses, or randomized controlled trials were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

One non-randomized study[1] sought to identify indicators of urinary incontinence issues following surgical repair of hip fractures. The authors stated that the recommended time to remove indwelling urinary catheters was 24 hours following surgery. Eleven percent of participants in the study were still catheterized 72 hours after surgery. The authors observed that these patients who remained catheterized experienced urinary tract infection, cognitive impairment, and delirium more frequently. At 12 months, functioning levels were lower in patients who had previous urinary incontinence than in those who did not.

One guideline,[2] produced by the Centers for Disease Control, recommends catheters be removed within 24 hours of surgery, or as soon as possible thereafter if there are appropriate indications for continued use.

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

1. Sorbye LW, Grue EV. Hip fracture and urinary incontinence--use of indwelling catheter postsurgery. Scand J Caring Sci. 2013 Sep;27(3):632-42.
PubMed: PM22943160

Guidelines and Recommendations

2. Gould CV, Umscheid CA, Agarwal RK, Kuntz G, Pegues DA, Healthcare Infection Control Practices Advisory Committee (HICPAC). Guideline for prevention of catheter-associated urinary tract infections 2009. [Internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2009. [cited 2014 Nov 24]. Available from:
http://www.cdc.gov/hicpac/pdf/CAUTI/CAUTIguideline2009final.pdf
National Guideline Clearinghouse Summary
http://www.guideline.gov/content.aspx?id=15519&search=catheter+removal
See: I.A.4

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APPENDIX – FURTHER INFORMATION:

Randomized Controlled Trials – Age Not Specified in Abstract

3. Halleberg NM, Gustafsson M, Langius-Eklof A, Johansson JE, Norlin R, Hagberg L. Intermittent versus indwelling urinary catheterisation in hip surgery patients: a randomised controlled trial with cost-effectiveness analysis. Int J Nurs Stud. 2013 Dec;50(12):1589-98. PubMed: PM23768410

4. Miller AG, McKenzie J, Greenky M, Shaw E, Gandhi K, Hozack WJ, et al. Spinal anesthesia: should everyone receive a urinary catheter?: a randomized, prospective study of patients undergoing total hip arthroplasty. J Bone Joint Surg Am. 2013 Aug 21;95(16):1498-503. PubMed: PM23965700

Non-Randomized Studies – Checklists

5. Prayle H, Thompson M, Lancaster S, Molyneux R, Tsang J. Early removal of urinary catheters in patients with hip fracture using the Houdini(B) checklist. Age and Ageing. [Internet]. 2014;43 (suppl 1): i8. [cited: 2014 Nov 24]. Abstract available from: http://ageing.oxfordjournals.org/content/43/suppl_1/i8.4.short

Review Articles

6. Bjerregaard LS, Bagi P, Kehlet H. Postoperative urinary retention (POUR) in fast-track total hip and knee arthroplasty: A challenge for orthopedic surgeons. Acta Orthopaedica. [Internet]. 2014; 85 (1): 8–10. [cited 2014 Nov 24]. Available from: http://informahealthcare.com/doi/pdf/10.3109/17453674.2014.881683

7. Balderi T, Carli F. Urinary retention after total hip and knee arthroplasty. Minerva Anestesiol. 2010 Feb;76(2):120-30. PubMed: PM20150853