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CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Frequency of Long-Term Indwelling Urinary Catheter Replacement: Clinical Effectiveness and Cost-Effectiveness

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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

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Research Questions

1. What is the clinical effectiveness of long-term indwelling urinary catheter replacement every month?
2. What is the cost-effectiveness of long-term indwelling urinary catheter replacement every month?

Key Findings

One systematic review was identified regarding the clinical effectiveness of replacement of long-term indwelling urinary catheters in adults. No relevant health technology assessments, randomized controlled trials, non-randomized studies, or economic evaluations were identified.

Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE ALL (1946—) via Ovid, Cumulative Index to Nursing and Allied Health Literature (CINAHL), the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were urinary catheters and device removal. Search filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, or network meta-analyses, any types of clinical trials or observational studies, and economic studies. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2014 and August 6, 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

Population	Adults with long-term indwelling urinary catheters
Intervention	Replacement of long-term indwelling urinary catheters every month
Comparator	A different frequency of long-term indwelling urinary catheter replacement (e.g., weekly, bi-monthly)
Outcomes	Q1: Clinical effectiveness (e.g., safety [rates of infections, catheter complications, adverse events]) Q2: Cost-effectiveness (e.g., incremental cost per quality-adjusted life year or health benefit gained)
Study Designs	Health technology assessments, systematic review, meta-analyses, randomized control trials, non-randomized studies, economic evaluations.

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 economic evaluations.

One systematic review[1] was identified regarding the clinical effectiveness of replacement of long-term indwelling urinary catheters in adults. No relevant health technology assessments, randomized controlled trials, non-randomized studies, or economic evaluations were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

One systematic review[1] was identified regarding the clinical effectiveness of replacement of long-term indwelling urinary catheters in adults.

The authors of the systematic review[1] focused on the effectiveness of different policies for replacing long-term indwelling urinary catheters in adults. The authors reported that there was insufficient evidence for the outcome of incidences of symptomatic urinary tract infections in people who had their catheter changed only when clinically indicated compared with monthly changes in addition to changes when clinically indicated.[1] In addition, the authors stated that there was a number of important patient outcomes which had not been assessed.[1] These patient outcomes included patient satisfaction, quality of life, urinary tract trauma, and economic outcomes.[1]

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

1. Cooper FP, Alexander CE, Sinha S, Omar MI. Policies for replacing long-term indwelling urinary catheters in adults. Cochrane Database Syst Rev. 2016;7:CD011115. PubMed: PM27457774

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

No literature identified.

Economic Evaluations

No literature identified.

Appendix — Further Information

Previous CADTH Reports

2. Management of patients with long-term indwelling urinary catheters: a review of guidelines. *(CADTH rapid response: summary with critical appraisal)*. Ottawa (ON): CADTH; 2019: https://www.cadth.ca/sites/default/files/pdf/htis/2019/RC1112%20Indwelling%20Urinary%20Catheters%20Final.pdf. Accessed 2019 Aug 20.

3. Cleansing methods during the insertion and maintenance of indwelling urinary catheters: clinical effectiveness and guidelines. *(CADTH rapid response report: summary of abstracts)*. Ottawa (ON): CADTH; 2017: https://www.cadth.ca/sites/default/files/pdf/htis/2017/RB1110%20Infection%20Control%20Final.pdf. Accessed 2019 Aug 20.

Systematic Reviews

Catheter Utilization

4. Durant DJ. Nurse-driven protocols and the prevention of catheter-associated urinary tract infections: a systematic review. *Am J Infect Control*. 2017;45(12):1331-1341. PubMed: PM126294981.

Alternative Intervention

Removal of Catheter

5. Menshawy A, Ghanem E, Menshawy E, et al. Early versus delayed removal of indwelling urinary catheter after elective caesarean delivery: systematic review and meta-analysis of randomized controlled trials. *J Matern Fetal Neonatal Med*. 2018:1-161.
PubMed: PM30522371

6. Zhang P, Hu WL, Cheng B, Cheng L, Xiong XK, Zeng YJ. A systematic review and meta-analysis comparing immediate and delayed catheter removal following uncomplicated hysterectomy. *Int Urogynecol J*. 2015;26(5):665-674.
PubMed: PM25398392

Non-Randomized Studies

Catheter Processes

7. Stancovici A, Galvan-Anderson B. Taking every precaution – an inter-professional approach to reducing catheter associated urinary tract infections in an acute care medical center. *Am J Infect Control*. 2019;47:S13-S13.
PubMed: PM136691031.

Alternative Comparator

8. Babich T, Zusman O, Elbaz M, et al. Replacement of urinary catheter for urinary tract infections: a prospective observational study. *J Am Geriatr Soc*. 2018;66(9):1779-1784.
PubMed: PM30094820

Catheter Use Protocol

9. Dave C, Faraj K, Vakharia P, Boura J, Hollander J. Quality improvement foley project to reduce catheter-related trauma in a large community hospital. *J Healthc Qual*. 2018;40(1):51-57.
PubMed: PM29095744

Review Articles

10. Galiczewski JM. Interventions for the prevention of catheter associated urinary tract infections in intensive care units: an integrative review. *Intensive Crit Care Nurs*. 2016;32:1-11.
PubMed: PM111498865.

Additional References

Electronic Book

11. McGoldrick M. Frequency for changing long-term indwelling urethral catheters. *Home Healthcare Now.* 2016;34(2):105-106.
https://www.nursingcenter.com/journalarticle?Article_ID=3304017&Journal_ID=2695880&Issue_ID=3303830. Accessed 2019 Aug 20.