

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Disposable Gloves for Use in Healthcare Settings: Clinical Effectiveness, Cost- Effectiveness, and Guidelines

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Research Questions

1. What is the clinical effectiveness of different types of disposable gloves for use in healthcare settings?
2. What is the cost-effectiveness of different types of disposable gloves for use in healthcare settings?
3. What are the evidence-based guidelines regarding the use of different types of disposable gloves for use in healthcare settings?

Key Findings

One evidence-based guideline was identified regarding the use of different types of disposable gloves in health care settings. No relevant literature was identified regarding the clinical or cost-effectiveness of different types of disposable gloves.

Methods

This report makes use of a literature search strategy developed for a previous CADTH report. For the current report, a limited literature search was conducted by an information specialist on key resources including Medline via OVID, 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 concept was gloves commonly used in healthcare settings (e.g. nitrile, latex, disposable). 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, 2012 and May 24, 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	Patients in emergency room settings
Intervention	Disposable gloves (e.g., vinyl, nitrile [clean room, low-modulus], latex)
Comparator	Other disposable gloves (e.g., vinyl, nitrile [clean room, low-modulus], other types of nitrile, latex)
Outcomes	Q1: Clinical effectiveness (e.g., safety, effectiveness to prevent pathogen transmission, allergy potential) Q2: Cost-effectiveness Q3: Guidelines and recommendations for duration for use, type of glove to use
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations, evidence-based guidelines

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, economic evaluations, and evidence-based guidelines.

One evidence-based guideline was identified regarding the use of different types of disposable gloves in health care settings. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies or economic evaluations were identified regarding the effectiveness of different types of disposable gloves in health care settings.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

The identified guideline¹ recommends which types of disposable gloves are appropriate for use in different health care settings or medical situations. For instance, the authors recommend that latex gloves be worn when there is anticipated contact with blood or body fluids as this type of disposable glove provides good barrier protection. Vinyl gloves were not recommended for use when there will be contact with blood or body fluids.¹

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.

Economic Evaluations

No literature identified.

Guidelines and Recommendations

1. National Services Scotland Infection Control Team. Standard infection control precautions literature review: personal protective equipment (PPE) gloves. Glasgow (UK); National Services Scotland; 2016: <http://www.nipcm.scot.nhs.uk/documents/sicp-ppe-gloves/>. Accessed 2019 May 30.
See: Types of Glove, page 9

Appendix — Further Information

Previous CADTH Reports

2. Disposable, non-sterile gloves for minor surgical procedures: a review of clinical evidence (*CADTH Rapid response: summary with critical appraisal*). Ottawa (ON): CADTH; 2017: <https://www.cadth.ca/disposable-non-sterile-gloves-minor-surgical-procedures-review-clinical-evidence-0>. Accessed 2019 May 30.
3. Disposable gloves for use in healthcare settings: a review of the clinical and cost-effectiveness, safety, and guidelines (*CADTH Rapid response: summary with critical appraisal*). Ottawa (ON): CADTH; 2013: <https://www.cadth.ca/disposable-gloves-use-healthcare-settings-review-clinical-and-cost-effectiveness-safety-and>. Accessed 2019 May 30.
4. Disposable gloves for use in healthcare settings: a review of the clinical effectiveness, safety, cost-effectiveness, and guidelines (*CADTH Rapid response: summary with critical appraisal*). Ottawa (ON): CADTH; 2011: <https://www.cadth.ca/disposable-gloves-use-healthcare-settings-review-clinical-effectiveness-safety-cost-effectiveness>. Accessed 2019 May 30.

Systematic Reviews and Meta-Analyses - Types of Disposable Gloves Not Specified

5. Holte HH, Straumann GH, Fagernes M. Use of clean disposable gloves to prevent infection in the health services, a systematic search for literature with a sorted list of references. Trondheim (NO); Norwegian Institute of Public Health; 2018: <https://www.fhi.no/en/publ/2018/Use-of-clean-disposable-gloves-to-prevent-infection-in-the-health-services-a-systematic-search-for-litterature-with-a-sorted-list-of-references/>. Accessed 2019 May 30.

Non-Randomized Studies

Alternative Outcomes

6. Moran V, Heuertz R. Cross contamination: are hospital gloves reservoirs for nosocomial infections? *Hosp Top*. 2017;95(3):57-62.
[PubMed: PM28715297](#)
7. Koenig DW, Korir-Morrison C, Hoffman DR. Transfer efficiency of *Staphylococcus aureus* between nitrile exam gloves and nonporous fomites. *Am J Infect Control*. 2016;44(2):245-246.
[PubMed: PM26549663](#)

Hospital Setting Not Specified

8. Moore G, Dunnill CW, Wilson AP. The effect of glove material upon the transfer of methicillin-resistant *Staphylococcus aureus* to and from a gloved hand. *Am J Infect Control*. 2013;41(1):19-23.
[PubMed: PM22981164](#)

Review Articles

9. Edlich R, Woodard CR, Pine SA, Lin KY. A collective review on hazards of powder on surgical and examination gloves. *J Long Term Eff Med Implants*. 2017;27(2-4):123-135. [PubMed: PM29773036](#)