

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Hand Hygiene and Glove Use in Dental Settings: Clinical Effectiveness, Cost- Effectiveness, and Guidelines

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Authors: Camille Dulong, Robyn Butcher

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Research Questions

1. What is the clinical evidence regarding hand hygiene techniques or glove use in dental settings?
2. What is the cost-effectiveness of hand hygiene techniques or glove use in dental settings?
3. What are the evidence-based guidelines regarding hand hygiene techniques or glove use in dental settings?

Key Findings

One systematic review was identified regarding clinical effectiveness of gloves in dental care settings. No relevant economic evaluations or evidence-based guidelines were identified.

Methods

A limited literature search was conducted on key resources including Medline via Ovid, 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 April 3, 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	Any patient undergoing a dental examination or procedure
Interventions	Hand hygiene products or techniques (e.g., soap and water, antibacterial solutions, surgical scrubs) Gloves (e.g., nitrile [clean] gloves, surgical [sterile] gloves, polyethylene over gloves)
Comparator	Q1-2: Any products or techniques compared with each other or compared with no hand hygiene Q3: No comparator
Outcomes	Q1: Clinical evidence, safety (e.g., infection transmission) Q2: Cost-effectiveness Q3: Guidelines and best practice
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 systematic review was identified regarding the clinical effectiveness and use of hand gloves in dental care settings. No relevant health technology assessments, randomized controlled trials, economic evaluations, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

The authors of the systematic review¹ assessed whether the use of sterile gloves reduced surgical site infection (SSI) post-operatively compared to non-sterile gloves. Fourteen articles met the inclusion criteria for the systematic review and thirteen articles were included in the meta-analysis. Overall, the researchers concluded that there was no difference in postoperative SSI, with sterile or non-sterile gloves having comparable rates of SSI.¹

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

1. Brewer JD, Gonzalez AB, Baum CL, et al. Comparison of sterile vs nonsterile gloves in cutaneous surgery and common outpatient dental procedures: a systematic review and meta-analysis. *JAMA Dermatol.* 2016 09 01;152(9):1008-1014.
[PubMed: PM27487033](#)

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

No literature identified.

Economic Evaluations

No literature identified.

Guidelines and Recommendations

No literature identified.

Appendix — Further Information

Previous CADTH Reports

2. Disposable, non-sterile gloves for minor surgical procedures: a review of clinical evidence. (*CADTH Rapid response report: 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 April 18.
3. Non-alcohol-based hand rubs: a review of clinical effectiveness and guidelines. (*CADTH Rapid response report: summary with critical appraisal*). Ottawa (ON): CADTH; 2017: <https://www.cadth.ca/non-alcohol-based-hand-rubs-review-clinical-effectiveness-and-guidelines> . Accessed 2019 Apr 18.
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6. Alcohol with chlorhexidine hand sanitizers: clinical effectiveness and guidelines. (*CADTH Rapid response report: summary of abstracts*). Ottawa (ON): CADTH; 2014: <https://www.cadth.ca/alcohol-chlorhexidine-hand-sanitizers-clinical-effectiveness-and-guidelines> . Accessed 2019 Apr 18.
7. Disposable gloves for use in healthcare settings: a review of the clinical and cost-effectiveness, safety, and guidelines. (*CADTH Rapid response report: 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 Apr 18.
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11. Frequent use of alcohol-based hand sanitizers: safety and guidelines. (*CADTH Rapid response report*). Ottawa (ON): CADTH; 2010: <https://www.cadth.ca/frequent-use-alcohol-based-hand-sanitizers-safety-and-guidelines-0>. Accessed 2019 April 18.
12. Alcohol and non-alcohol-based hand sanitizers: clinical effectiveness and safety. (*CADTH Rapid response report*). Ottawa (ON): CADTH; 2009: <https://www.cadth.ca/alcohol-and-non-alcohol-based-hand-sanitizers-clinical-effectiveness-and-safety-0>. Accessed 2019 Apr 18

Non-Randomized Studies – Non Patient-Related Health Outcomes

13. Niazi SA, Vincer L, Mannocci F. Glove contamination during endodontic treatment is one of the sources of nosocomial endodontic propionibacterium acnes infections. *J Endod.* 2016 Aug;42(8):1202-1211.
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Guidelines and Recommendations – Discusses Washing

17. WHO guidelines on hand hygiene in health care. Geneva (CH): World Health Organization; 2009:
http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf. Accessed 2019 Apr 18.
See: Section 11 Review of Preparations Used for Hand Hygiene, Page 30

Clinical Practice Guidelines - Methodology Not Specified

18. Summary of infection prevention practices in dental settings. Atlanta (GA): Centers for Disease Control and Prevention; 2016:
<https://www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care2.pdf> . Accessed 2019 Apr 18.
See: Hand Hygiene, Page, 7
19. Best practices for hand hygiene in all health care settings. 4th ed. Toronto (ON): Public Health Ontario; 2014:
<https://www.publichealthontario.ca/-/media/documents/bp-hand-hygiene.pdf?la=en> . Accessed 2019 Apr 18
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Review Articles

20. Seager LM. Good infection prevention: hand hygiene. *Dent Update*. 2010 09;37(7):478-483.
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Additional References

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[PubMed: PM24564616](#)