

CADTH Reference List

# Surgical Antiseptic Drying Time

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## Key Messages

- We did not find any studies about the clinical evidence of duration(s) of drying time for 2% chlorhexidine gluconate with 70% isopropyl alcohol for surgical site preparation.
- We did not find any evidence-based guidelines about the duration(s) of drying time for 2% chlorhexidine gluconate with 70% isopropyl alcohol for surgical site preparation.
- We identified other references on this topic that may be of interest; these are listed in the appendix.

## Research Questions

1. What is the clinical evidence regarding the duration(s) of drying time for 2% chlorhexidine gluconate with 70% isopropyl alcohol for surgical site preparation?
2. What are the evidence-based guidelines regarding the duration(s) of drying time for 2% chlorhexidine gluconate with 70% isopropyl alcohol for surgical site preparation?

## Methods

### Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, Embase, the Cochrane Database of Systematic Reviews, the International HTA Database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were 2% chlorhexidine gluconate 70% isopropyl alcohol surgical antiseptic and patients undergoing surgical site preparation. The search was not limited by study type. The search was completed on January 9, 2023, and limited to English-language documents published since January 1, 2018. Internet links were provided, where available.

### Selection Criteria

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in [Table 1](#). Full texts of study publications were not reviewed. Open access full-text versions of evidence-based guidelines were reviewed when available.

## Results

No relevant health technology assessments, systematic reviews, randomized controlled trials, or non-randomized studies were identified regarding the clinical evidence regarding the duration(s) of drying time for 2% chlorhexidine gluconate with 70% isopropyl alcohol for

**Table 1: Selection Criteria**

Criteria	Description
<b>Population</b>	Patients undergoing surgical site preparation
<b>Intervention</b>	Duration(s) of drying time for 2% chlorhexidine gluconate with 70% isopropyl alcohol surgical antiseptic
<b>Comparator</b>	Q1: Alternative duration(s) of drying time for 2% chlorhexidine gluconate with 70% isopropyl alcohol surgical antiseptic; no comparator Q2: Not applicable
<b>Outcomes</b>	Q1: Clinical evidence describing benefits (e.g., reduced surgical site infections, quality of life) and harms (e.g., adverse effects, mortality) Q2: Evidence-based recommendations
<b>Study designs</b>	Q1: Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies Q2: Evidence-based guidelines

surgical site preparation. No relevant evidence-based guidelines were identified regarding the duration(s) of drying time for 2% chlorhexidine gluconate with 70% isopropyl alcohol for surgical site preparation.

References of potential interest that did not meet the inclusion criteria are provided in [Appendix 1](#).

## References

### Health Technology Assessments

No literature identified.

### Systematic Reviews

No literature identified.

### Randomized Controlled Trials

No literature identified.

### Non-Randomized Studies

No literature identified.

### Guidelines and Recommendations

No literature identified.

## Appendix 1: References of Potential Interest

### Non-Randomized Studies

#### *Alternative Outcome – Determination of ChloroPrep® Drying Time*

Gunka V, Soltani P, Astrakianakis G, et al. Determination of ChloroPrep® drying time before neuraxial anesthesia in elective cesarean delivery. A prospective observational study. *Int.* 2019 05;38:19-24. [PubMed](#)

### Guidelines and Recommendations

#### *Expert Consensus*

Barton A, Bitmead J, Clare S, et al. How to improve aseptic technique to reduce bloodstream infection during vascular access procedures. *Br J Nurs.* 2022 Sep 22;31(17):880-885. [PubMed](#)

#### *Unclear Methodology*

Alberta Health Services. Selection, Handling, Application for Use and Storage of Patient Skin Antiseptic Products for Invasive Procedures Outside the Operating Room; 2021. <https://www.albertahealthservices.ca/assets/healthinfo/ipc/if-hp-ipc-bpg-skin-antiseptic-products.pdf> Accessed 2023 January 10.  
See: 4.1 Follow the product label regarding the required drying time, page 3.

### Additional References

#### *Medical Website Information*

Mayo Clinic. Chlorhexidine (Topical Application Route) proper use; 2021. <https://www.mayoclinic.org/drugs-supplements/chlorhexidine-topical-application-route/proper-use/drg-20070874> Accessed 2023 January 10.  
See: Dosing, To use before surgery or an injection (e.g., Chloraprep®), adults, teenagers, and children 2 months of age and older.

#### *Product Label*

U.S. Food and Drug Administration. BD ChloroPrep Clear label; 2019. [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2019/020832Orig1s036\\_REPLACEMENT\\_lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/020832Orig1s036_REPLACEMENT_lbl.pdf) Accessed 2023 January 10.  
See: ChloroPrep™ Clear 1 mL Applicator, Directions, page 3; ChloroPrep™ FREPP™ Clear 1.5 mL Applicator, Directions, page 7; ChloroPrep™ Clear 3 mL Applicator, Directions, page 9; ChloroPrep™ Clear/Hi-Lite Orange™ 3 mL Applicator, Directions, page 10.

#### *Manufacturer Summary of Clinical Studies*

3M. Summary of Clinical Studies for Professional Healthcare Use Approval in Canada. 3M™ SoluPrep™ 2% chlorhexidine gluconate (CHG) and 70% isopropyl alcohol (IPA); 2018. <https://multimedia.3m.com/mws/media/1602666O/3mtm-solupreptm-clinical-studies.pdf>, Accessed 2023 January 10.  
See: Dry time, page 14.