



CADTH Reference List

# **Perioperative Normothermia Interventions to Prevent Caesarean Section Surgical Site Infection**

Weiyi Xie  
Carolyn Spry

## Key Messages

- We found 1 nonrandomized study about the clinical effectiveness of perioperative normothermia interventions to prevent surgical site infection in patients who have had a caesarean section.
- We did not find any evidence-based guidelines for perioperative normothermia intervention to prevent surgical site infection in patients who have had a caesarean section.

## Research Questions

1. What is the clinical effectiveness of perioperative normothermia interventions to prevent surgical site infection in patients who have had a caesarean section?
2. What are the evidence-based guidelines for perioperative normothermia intervention to prevent surgical site infection in patients who have had a caesarean section?

## Methods

### Literature Search Methods

An information specialist conducted a literature search 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 approach was customized to retrieve a limited set of results, balancing comprehensiveness with relevancy. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. Search concepts were developed based on the elements of the research questions and selection criteria. The main search concepts were caesarean section and normothermia. Retrieval was limited to humans. The search was completed on July 11, 2023, and limited to English-language documents published since January 1, 2018. Internet links were provided, where available.

### Selection Criteria and Summary Methods

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. The Overall Summary of Findings was based on information available in the abstracts of selected publications. Open access full-text versions of evidence-based guidelines were reviewed when available, and relevant recommendations were summarized.

**Table 1: Selection Criteria**

Criteria	Description
<b>Population</b>	Patients undergoing caesarean section
<b>Intervention</b>	Any perioperative normothermia intervention to prevent surgical site infection
<b>Comparator</b>	Q1: Alternative normothermia intervention to prevent surgical site infection; no intervention Q2: Not applicable
<b>Outcomes</b>	Clinical effectiveness (e.g., rate of surgical site infections, class of surgical site infections [i.e., superficial vs. deep infection], complications due to surgical site infection) Recommendations regarding the appropriate use of perioperative normothermia practices (e.g., types of normothermia practices for caesarean sections to prevent surgical site infection, duration of practice)
<b>Study designs</b>	Health technology assessments, systematic reviews, randomized controlled trials, nonrandomized studies, evidence-based guidelines

## Results

One nonrandomized study was identified regarding the clinical effectiveness of perioperative normothermia interventions to prevent surgical site infection (SSI) in patients who have had a caesarean section.<sup>1</sup> No relevant health technology assessments, systematic reviews, or randomized controlled trials were identified. No evidence-based guidelines were identified regarding perioperative normothermia intervention to prevent SSI in patients who have had a caesarean section.

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

## Overall Summary of Findings

One retrospective cohort study was identified regarding the clinical effectiveness of perioperative normothermia intervention to prevent SSI in people undergoing repeat caesarean deliveries.<sup>1</sup> The study found no difference in SSIs between people receiving preoperative active warming (i.e., forced air warming) combined with standard passive warming (i.e., preheated IV/irrigation fluids and cotton blankets) and those receiving standard passive warming alone.<sup>1</sup>

No evidence-based guidelines were found regarding perioperative normothermia intervention to prevent SSI in patients who have had a caesarean section; therefore, no summary can be provided.

## References

### Health Technology Assessments

No literature identified.

### Systematic Reviews

No literature identified.

### Randomized Controlled Trials

No literature identified.

### Nonrandomized Studies

1. Hoefnagel AL, Vanderhoef KL, Anjum A, et al. Improving intraoperative temperature management in elective repeat cesarean deliveries: a retrospective observational cohort study. *Patient Saf Surg.* 2020;14:14. [PubMed](#)

### Guidelines and Recommendations

No literature identified.

## Appendix 1: References of Potential Interest

### Guidelines and Recommendations

#### *Not Specific to SSI Prevention*

Bollag L, Lim G, Sultan P, et al. Society for Obstetric Anesthesia and Perinatology: consensus statement and recommendations for enhanced recovery after cesarean. *Anesth Analg*. 2021;132(5):1362-1377. [https://www.soap.org/assets/docs/Society\\_for\\_Obstetric\\_Anesthesia\\_and\\_Perinatology\\_95413.pdf](https://www.soap.org/assets/docs/Society_for_Obstetric_Anesthesia_and_Perinatology_95413.pdf). Accessed 2023 Jul 14. [PubMed](#)  
Refer to "Maintain normothermia" in Table 2 (p. 4)

### Additional References

#### *Newsletter*

Seligman K, Katz D, Farber MK. Preventing surgical site infection after cesarean delivery—the anesthesia professional's role. *ASPF Newsl*. 2018;33(1). <https://www.apsf.org/article/preventing-surgical-site-infection-after-cesarean-delivery-the-anesthesia-professionals-role/>. Accessed 2023 Jul 14.

**Authors:** Weiyi Xie, Carolyn Spry

**Contributor:** Candice Madakadze

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