

CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Caesarean Delivery for Pregnancies in the First Stage of Labor: Clinical Effectiveness and Guidelines

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Questions or requests for information about this report can be directed to requests@cadth.ca

Research Questions

1. What are the benefits and harms of caesarean delivery for Robson group 1 pregnancies with failure to progress in the latent phase of labor?
2. What are the benefits and harms of caesarean delivery for Robson group 2A pregnancies with failure to progress in the latent phase of labor?
3. What are the benefits and harms of caesarean delivery for Robson group 1 pregnancies with failure to progress in the active phase of labor?
4. What are the benefits and harms of caesarean delivery for Robson group 2A pregnancies with failure to progress in the active phase of labor?
5. What are the evidence-based guidelines regarding the use of caesarean delivery for Robson group 1 or 2A pregnancies with failure to progress in the first stage of labor?

Key Findings

Two evidence-based guidelines were identified regarding the use of caesarean delivery for Robson group 1 or 2A pregnancies with failure to progress in the first stage of labor. No literature was identified regarding the harms and benefits of cesarean delivery for Robson Group 1 and 2A pregnancies with failure to progress in the active or latent phase of labor.

Methods

A limited literature search was conducted by an information specialist on key resources including PubMed, 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 Caesarean section, stages of labour and selected population characteristics. For the main search, no filters were applied to limit the retrieval by study type. For the guidelines question, a search filter was applied to limit retrieval to guidelines. 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 20, 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	Q1: Nulliparous singleton pregnancies ≥ 37 weeks with cephalic presentation in spontaneous labor with failure to progress in the latent phase of labor without augmentation Q2: Nulliparous singleton pregnancies ≥ 37 weeks with cephalic presentation in induced labor with failure to progress in the latent phase of labor without augmentation Q3: Nulliparous singleton pregnancies ≥ 37 weeks with cephalic presentation in spontaneous labor with failure to progress in the active phase of labor without augmentation Q4: Nulliparous singleton pregnancies ≥ 37 weeks with cephalic presentation in induced labor with failure to progress in the active phase of labor without augmentation Q5: Nulliparous singleton pregnancies ≥ 37 weeks with cephalic presentation in spontaneous or induced labor with failure to progress in latent or active phase of labor
Intervention	Caesarean delivery
Comparator	Continuing labor with or without augmentation
Outcomes	Fetal and maternal health outcomes including but not limited to, ICU stay, risk of asthma for the newborn, breastfeeding, transient tachypnea of the newborn surgical complications or other complications of delivery, postpartum hemorrhage, sepsis, wound infection, length of hospital stay; number of caesarean sections performed; use of augmentation; evidence-based guidelines.
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, 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, and evidence-based guidelines.

Two evidence-based guidelines^{1,2} were identified regarding the use of caesarean delivery for Robson group 1 or 2A pregnancies with failure to progress in the first stage of labor. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials or non-randomized studies were identified regarding the harms and benefits of cesarean delivery for Robson Group 1 and 2A pregnancies with failure to progress in the active or latent phase of labor.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

Two evidence-based guidelines^{1,2} were identified regarding the use of caesarean delivery for Robson group 1 or 2A pregnancies with failure to progress in the first stage of labor.

Both identified guidelines, one from Queensland Health¹ and one from the Ontario Provincial Council for Maternal and Child Health & Ministry of Health and Long-Term Care², do not recommend caesarean delivery for nulliparous women in the first stage of labor with a prolonged latent phase of more than 20 hours.

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.

Guidelines and Recommendations

1. Queensland Clinical Guidelines. Normal birth. (Maternal and Neonatal Clinical Guideline no.MN17.25-V3-R22). Herston (AU): Queensland Health; 2017:
https://www.health.qld.gov.au/_data/assets/pdf_file/0014/142007/g-normalbirth.pdf
See: 5 First Stage and Appendix B: Summary position statements on length of labour
2. The Provincial Council for Maternal and Child Health & Ministry of Health and Long-Term Care. Quality-Based Procedures Clinical Handbook for Low Risk Birth. Toronto (ON): Ontario Ministry of Health and Long-Term Care; 2017:
http://www.health.gov.on.ca/en/pro/programs/ecfa/docs/hb_low_risk_birth.pdf
See: 13.0 Management of abnormal first stage and second stage of labour

Appendix — Further Information

Systematic Reviews and Meta-Analyses

Intervention Not Specified

3. Nippita TA, Khambalia AZ, Seeho SK, et al. Methods of classification for women undergoing induction of labour: a systematic review and novel classification system. *BJOG*. 2015 Sep;122(10):1284-1293.
[PM:26111433](#)

Non-Randomized Studies

Robson Group 1 and 2A Criteria Not Specified

4. Gibbs Pickens CM, Kramer MR, Howards PP, et al. Term Elective Induction of Labor and Pregnancy Outcomes Among Obese Women and Their Offspring. *Obstet Gynecol*. 2018 Jan;131(1):12-22.
[PubMed: PM29215512](#)
5. Xu C, Fu Q, Tao HB, et al. Effect of Cesarean Section on the Severity of Postpartum Hemorrhage in Chinese Women: The Shanxi Study. *Curr Med Sci*. 2018 Aug;38(4):618-625.
[PubMed: PM30128870](#)

Comparator Not Specified

6. Zhang JW, Branch W, Hoffman M, et al. In which groups of pregnant women can the caesarean delivery rate likely be reduced safely in the USA? A multicentre cross-sectional study. *BMJ open*. 2018 Aug 5;8(8):e021670.
[PubMed: PM30082355](#)

Stage of Labor Not Specified

7. Grasch JL, Thompson JL, Newton JM, Zhai AW, Osmundson SS. Trial of Labor Compared With Cesarean Delivery in Superobese Women. *Obstet Gynecol*. 2017 Nov;130(5):994-1000.
[PubMed: PM29016512](#)