

# INPLASY

## Postoperative Outcomes Following Cesarean Section Closure with Re-Approximation of Abdominal Rectus Muscle: A Systematic Review

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### ADMINISTRATIVE INFORMATION

**Support** - N/A.

**Review Stage at time of this submission** - Piloting of the study selection process.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202460040

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 June 2024 and was last updated on 11 June 2024.

### INTRODUCTION

**Review question / Objective** The goal of this literature review is to determine if patients who undergo cesarean section deliveries with rectus muscle closure differ in postoperative outcomes when compared to non-closure of the rectus muscle.

**Rationale** Prior clinical recommendations have noted insufficient evidence for the harms and benefits of rectus muscle reapproximation. Current research suggests that reapproximation of the rectus muscles could reduce the incidence of diastasis recti and decrease the incidence of adhesion formation, while conversely, others have regarded reapproximation of the recti as increasing postoperative pain. While systematic reviews and meta-analyses have investigated the closure versus non-closure of the peritoneum and subcutaneous space, there is a notable absence of systematic reviews investigating the closure of the rectus muscle.

**Condition being studied** Closure of rectus abdominis muscle post-Cesarean section.

### METHODS

**Participant or population** Patients with Cesarean section delivery.

**Intervention** Closure of rectus abdominis.

**Comparator** Non-closure of rectus abdominis.

**Study designs to be included** No restriction in study designs.

**Eligibility criteria** The following inclusion criteria were applied to the screened records: articles must have evaluated re-approximation of rectus muscle with comparison to non-closure, in the setting of cesarean section, and in any pregnant person for any clinical outcome. Exclusion criteria for articles: full study unavailable in English, animal studies, non transverse laparotomy incision, or if rectus

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abdominis closure was not part of the main intervention.

**Information sources** Cochrane Central Register of Controlled Trials, CINAHL Ultimate, Medline with Full Text, ClinicalTrials.gov, and medRxiv.

**Main outcome(s)** All reported post-operative outcomes: Post-operative pain, incidence of adhesions, and diastasis recti.

**Additional outcome(s)** Flexibility, core strength, length of stay, analgesic requirements, return of bowel motility, laboratory data, operative time, blood loss, complication rate, and infection rate.

**Data management** Covidence.org was used to facilitate the screening and selection of included articles.

**Quality assessment / Risk of bias analysis** Randomized controlled trials were assessed using the Cochrane Risk of Bias 2 (RoB2) tool. Observational studies such as case-control, cross-sectional, and cohort studies were reviewed using the Cochrane Risk of Bias in Non-Randomized Studies of Interventions (ROBINS-I) tool.

**Strategy of data synthesis** Data will be qualitatively synthesized based on the above outcomes.

**Subgroup analysis** There is no planned subgroup analysis; however, we plan to compare primigravida vs multigravida outcomes when appropriate.

**Sensitivity analysis** N/A.

**Language restriction** English.

**Country(ies) involved** United States.

**Keywords** Cesarean Section; Rectus muscle re-approximation; Rectus Abdominis; Pregnancy.

#### **Contributions of each author**

Author 1 - Anna Dong.

Author 2 - Margaret Lewerk.

Author 3 - Jennifer Marrone.

Author 4 - Eric Nemeec.