

# Which mode of birth is best? A systematic review to compare the impact of preterm vaginal vs caesarean birth on clinical outcomes.



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## Introduction

15 million babies are born prematurely (before 37 weeks) every year<sup>1</sup>. Almost half of neonatal deaths in England and Wales are caused by immaturity-related conditions. The optimal mode of delivery for preterm birth is debated, with some advocating for planned caesareans<sup>1</sup>, whilst others argue it increases the risks<sup>2</sup>. Different gestations and pathologies may have different optimal modes of birth.

**Aim: to assess the effect of preterm mode of birth (caesarean vs vaginal) on maternal and neonatal outcomes.**

## Results

We present data for perinatal death only. 45 studies included relevant data, there were no RCTs.

For planned mode of birth, when combining cephalic and breech births, the unadjusted odds of perinatal death were higher for planned caesarean birth compared to planned vaginal birth but the adjusted study did not show the same result.

For actual mode of birth, when combining cephalic and breech presentations, comparing actual caesarean to actual vaginal birth, the adjusted summary OR suggested no benefit of one mode of birth over the other.

When considering breech babies only the actual mode of birth adjusted data showed caesarean birth may be protective, whilst planned mode of birth revealed results in the same direction but with more uncertainty.

For cephalic babies, the odds of perinatal death may be higher for planned caesarean birth compared to planned vaginal birth.

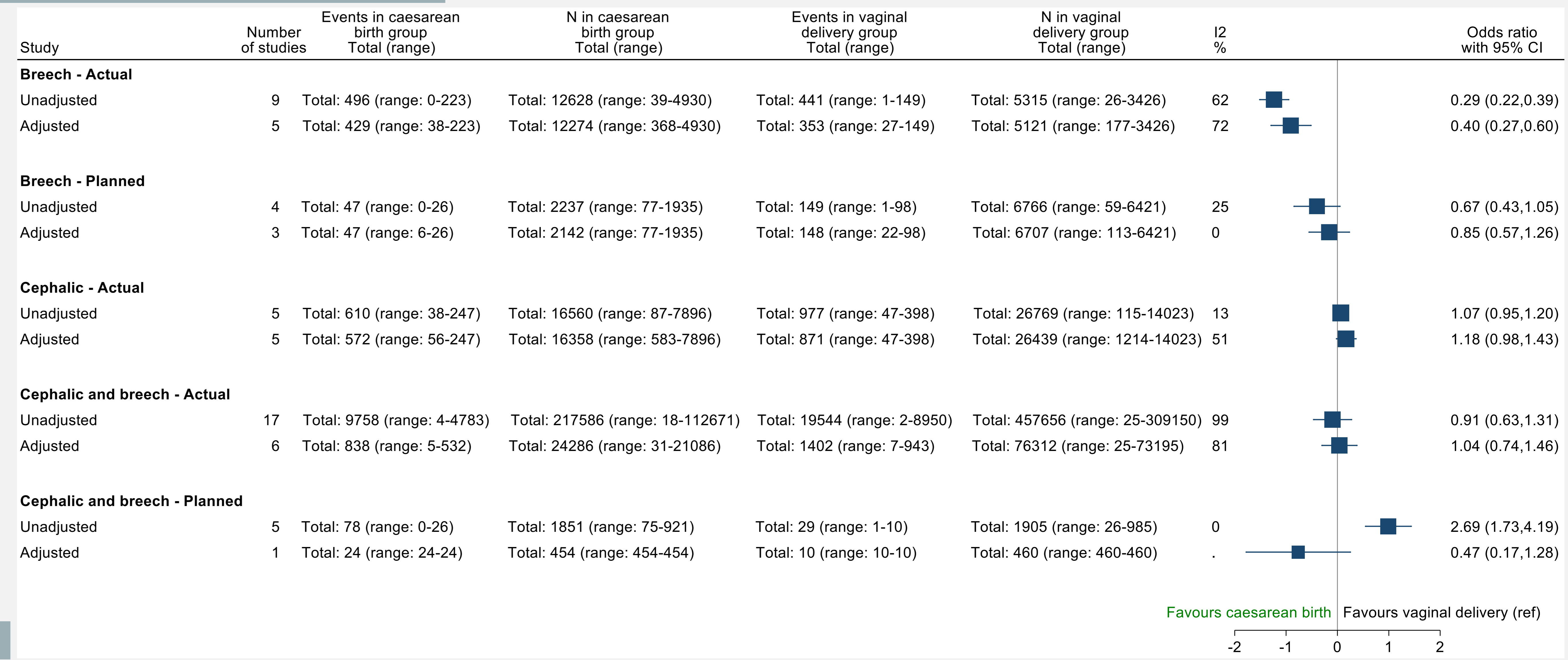
## Conclusion

**Caesarean may be protective for perinatal death in breech preterm births. Evidence is based on non-randomised studies and adjusted estimates are still likely to be confounded by indication . A well-designed RCT is required to answer the question about mode of birth for preterm babies.**

## Methods

Electronic databases were systematically searched. Screening and data extraction was by two team members. The Cochrane Risk of Bias tool and ROBINS-1 were used to assessed bias, and data were analysed based on planned and actual birth modes. Results were combined where at least two studies provided data using a random-effects meta-analyses, stratified by presentation and planned or actual mode of birth.

- Inclusion Criteria:**
- Randomised and non-randomised studies
  - High income setting
  - Gestational age 22+0 to <37 weeks
  - Any presentation
  - English language
  - Published since 1990



**References**

1. World Health Organisation. Available from <https://www.who.int/news-room/fact-sheets/detail/preterm-birth>
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3. Malloy MH. Impact of cesarean section on intermediate and late preterm births. Birth. 2009 Mar;36(1):26-33.