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# Predicting caesarean section risk following induction of labour: a pooled analysis of PROBAAT trials

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## INTRODUCTION

Many studies assess the ideal method for induction of labour (IOL) but few assess the **ideal candidate for induction of labour**. We aimed to identify maternal and fetal predictors of caesarean section (CS) following IOL to help stratify risk for mothers undergoing IOL.

## METHODS

The PROBAAT studies are large randomised control trials that assessed efficacy and safety various ripening agents (Foley vs prostaglandin gel<sup>1</sup>/ vaginal misoprostol<sup>2</sup>/ prostaglandin inserts<sup>3</sup>/ oral misoprostol<sup>4</sup>) in IOL. We pooled data from these trials and assessed that population for important risk factors for interested outcomes. Restricted cubic spline was used to explore non-linear relationships. Optimal cut-offs were then determined with maximized Area Under the Curve. Data were analysed using appropriate univariate analyses and adjusted odds ratios computer using multivariate logistical regression.

**Primary outcomes:** CS due to **failure to progress (FTP)** or **suspected fetal compromise (SFC)**

**Secondary outcome:** Vaginal delivery

# Induction of labour - It's not all about method & Bishop score.

**Maternal age, BMI, parity and birth weight percentile** are strong predictors for caesarean section following induction of labour.

## RESULTS

**2990 women** were included in this pooled secondary analysis. 582 (19.5%) had a caesarean delivery (313 for FTP and 227 for SFC).

### Positive predictors for CS due to FTP

- Birthweight >80th percentile
- Sub-Saharan ethnicity

### Positive predictors for CS due to SFC

- Birth weight <10<sup>th</sup> percentile
- South Asian ethnicity

### Common predictors

- Nulliparity
- Higher maternal age
- Higher BMI

## CONCLUSIONS

Maternal and fetal characteristics should be considered in combination with Bishop score to stratify risk of unsuccessful vaginal delivery for women who are undergoing IOL.



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