

# Labor Before a Primary Cesarean Delivery: Reduced Risk of Uterine Rupture in a Subsequent Trial of Labor for Vaginal Birth After Cesarean

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## Abstract

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**Objective:** To estimate the effect of the onset of labor before a primary cesarean delivery on the risk of uterine rupture if vaginal birth after cesarean (VBAC) is attempted in the next pregnancy.

**Methods:** Longitudinally linked birth records were used to follow women from a primary cesarean delivery to a trial of labor at term for their next birth. The effects of characteristics of both the trial of labor and primary cesarean deliveries on the risk of uterine rupture were examined.

**Results:** Of 10,160 women who had a trial of labor, 39 (0.38%) had a uterine rupture. Women who were induced or augmented for their trial of labor had a greater relative risk (RR) of uterine rupture (crude RR 4.24, 95% confidence interval [CI] 2.23-8.07). Women whose primary cesarean delivery was planned or followed induction of labor also had an increased risk of uterine rupture (crude RR 2.61, 95% CI 1.24-5.49), and this risk remained after adjustment for other factors. Women with a history of either spontaneous labor or vaginal birth had one uterine rupture for every 460 deliveries; women without this history who required induction or augmentation to proceed with a VBAC attempt had one uterine rupture for every 95 deliveries.

**Conclusion:** Labor before the primary cesarean delivery can decrease the risk of uterine rupture in a subsequent trial of labor. A history of primary cesarean delivery preceded by spontaneous labor is favorable for VBAC.

**Level of evidence:** II.

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