

# Uterine rupture is rare in the UK but increases with the number of previous cesarean deliveries

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An analysis of the UK Obstetric Surveillance System published in this week's *PLoS Medicine* shows that uterine rupture—a serious complication of pregnancy in which the wall of the uterus (womb) tears during pregnancy or early labour—is rare but for women who have previously had a caesarean section, the risk of rupture increases with the number of previous caesarean deliveries, a short interval since the last caesarean section, and with induced labour.

Kathryn Fitzpatrick and colleagues from the National Perinatal Epidemiology Unit based at the University of Oxford in the UK found that from April 2009 to April 2010, 159 women experienced uterine rupture in the UK, of whom 139 had previously delivered by a caesarean section.

The researchers found that overall, the incidence of uterine rupture was 0.2 per 1000 pregnancies but in women with a previous caesarean section, 0.21% of pregnancies resulted in uterine rupture in women planning vaginal delivery and 0.03% in those experiencing a repeat caesarean delivery.

Furthermore, the risk of uterine rupture was greatest among those who had had two or more previous caesarean deliveries or a caesarean delivery less than 12 months previously, or whose labor was induced.

In their detailed analysis, the researchers found that two women died following uterine rupture (giving a case fatality rate of 1.3%) and 18 babies died around the time of birth (giving a perinatal mortality rate of 124 per 1000 live births—the overall UK perinatal mortality rate is 7.5 per 1000 live births).

The authors say: "Although uterine rupture is associated with significant maternal and perinatal

mortality and morbidity, even amongst women with a previous caesarean section planning a vaginal delivery in their current pregnancy, it is rare, occurring in only one of every 500 women."

The authors conclude: "For women with a previous caesarean section, the risk of uterine rupture increases not only with trial of labour but also with the number of previous caesarean deliveries, a short interval since the last caesarean section, and labour induction and/or augmentation. These factors should be considered when counselling and managing the labour of women with a previous caesarean section."

In an accompanying Perspective, Catherine Spong from the National Institute of Child Health and Human Development in the USA (uninvolved in the research study) says:

"Given the major complications associated with multiple cesareans, to both mother and baby, [women](#) should carefully evaluate the immediate risks in the current pregnancy with the longer-term risks of multiple cesareans."

**More information:** Fitzpatrick KE, Kurinczuk JJ, Alfirevic Z, Spark P, Brocklehurst P, et al. (2012) Uterine Rupture by Intended Mode of Delivery in the UK: A National Case-Control Study. *PLoS Med* 9(3): e1001184. [doi:10.1371/journal.pmed.1001184](https://doi.org/10.1371/journal.pmed.1001184)

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