

# Study shows preterm birth risk most strongly linked to pre-eclampsia

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Women who gave birth to a premature baby after developing pre-

eclampsia were 17 times more likely to experience another preterm birth if pre-eclampsia emerged again, new Curtin University research has found.

The study, published in the *British Journal of Obstetrics and Gynaecology*, examined more than 125,000 women who experienced two consecutive singleton births in Western Australia from 1998 to 2015.

About 27,000 babies are born prematurely—or before 37 weeks' gestation—across Australia each year, with preterm [birth](#) the leading cause of death and morbidity in children up to five years of age in the developed world.

Lead author and Ph.D. candidate Jennifer Dunne, from Curtin's School of Population Health, said the findings showed the strongest link between preterm birth and pregnancies complicated by [pre-eclampsia](#), a serious pregnancy condition that is usually characterized by [high blood pressure](#), protein in the urine and severe swelling.

"When both pregnancies were complicated by pre-eclampsia, the risk of a subsequent preterm birth increased 10-fold after an initial term birth and 17-fold when the first birth was preterm, compared to women who had an uncomplicated first pregnancy," Ms Dunne said.

"This study also found that there was a three-fold higher risk of women experiencing a subsequent case of pre-eclampsia after a preterm birth in the first pregnancy that was not complicated by pre-eclampsia.

"Until recently, a first birth at full term was considered a reduced risk for a preterm delivery in the next pregnancy. However, there is emerging evidence that a complicated first pregnancy, regardless of whether the baby was delivered early or at full term, increases the subsequent risk of a baby being born prematurely."

Ms Dunne said the main pregnancy complications examined included pre-eclampsia, placental abruption (the detachment from the wall of the womb), small-for-gestational age and perinatal death (a stillbirth or a neonatal death in the first 28 days).

"Having any of the four complications in their first pregnancy puts women at an increased risk of a preterm birth in their next pregnancy, regardless of whether that first birth ended at full term or preterm," Ms Dunne said.

"Likewise, women whose first pregnancy ended in a preterm delivery were at an increased risk for each pregnancy complication in the second pregnancy.

"The findings of this study will help clinicians to better identify [women](#) who are at an increased risk of a either a [preterm birth](#) or complications in their subsequent pregnancies. Further research is now needed to reveal the specific pathways that explain these strong links between [pregnancy](#) complications and [preterm](#) births, whether they be genetic, pathological, and behavioral or other recurrent issues."

**More information:** J Dunne et al, The role of confounding in the association between pregnancy complications and subsequent preterm birth: a cohort study, *BJOG: An International Journal of Obstetrics & Gynaecology* (2021). [DOI: 10.1111/1471-0528.17007](https://doi.org/10.1111/1471-0528.17007)

Provided by Curtin University

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