

Balloon labor induction safer for babies, researchers find

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Melbourne researchers have found that one of two common methods to induce labor is safer for babies, although both were as safe for the mother and neither led to more cesarean births.

The findings could help inform the growing number of inductions conducted globally each year—now around 14 million—when the risks of continued pregnancy outweigh the benefits.

Published in *The Lancet*, the Monash Health and Monash University-led study found clear evidence that a balloon [catheter](#) leads to an improved safety profile for newborns than vaginal hormones.

This included fewer adverse events such as acidosis (a build-up of acid in the bloodstream), poor condition after birth, or [neonatal intensive care unit](#) admission. There was no difference in maternal adverse events or cesarean rates between the two methods.

Labor induction is one of the most common obstetric interventions and rates have significantly increased over the past decade, from 25 to 35% in Australia alone.

Most commonly, the cervix is "ripened" either mechanically, by inserting a water-filled balloon catheter which exerts pressure on the cervix over several hours and guides it open, or hormonally, with medications that replicate prostaglandin, a hormone which also softens and opens the cervix.

The international data meta-analysis concluded that while both methods were effective, balloon catheters were safer for newborns and using them could considerably reduce adverse birth events.

Investigators of 12 high-quality trials contributed data, resulting in 5,460 women who were randomized in original trials for either balloon catheter or vaginal prostaglandins.

First author Dr. Madeleine Jones, a Monash Health/Monash Women's Registrar and Monash University Department of Obstetrics and

Gynecology Ph.D. candidate, said previous research had demonstrated that balloon catheters were likely as effective as vaginal prostaglandin.

"However, it was unclear if one method was safer than the other, as there is a limited ability to measure these with either single clinical trials or analysis of summary data from multiple trials," Dr. Jones said.

"We established an international collaborative that was led by our research group at Monash University and Monash Health to address this knowledge gap. This enabled us to achieve some clear and important results."

Senior author Dr. Wentao Li, a Monash University School of Clinical Sciences Department of Obstetrics and Gynecology Research Fellow, said the results were significant.

"For the first time, we identified clear evidence that a [balloon](#) catheter over vaginal prostaglandins leads to an improved safety profile for newborns, including fewer adverse events such as acidosis, poor condition after birth, or admission to a neonatal intensive care unit," Dr. Li said.

"Maternal adverse events did not show any difference between the two methods, nor was there a significant difference in the rates of cesarean section.

"What all this means is perinatal safety should be carefully assessed in shared decision-making and policymaking around choices of labor induction methods."

More information: Madeleine N Jones et al, Balloon catheters versus vaginal prostaglandins for labour induction (CPI Collaborative): an individual participant data meta-analysis of randomised controlled trials,

The Lancet (2022). [DOI: 10.1016/S0140-6736\(22\)01845-1](https://doi.org/10.1016/S0140-6736(22)01845-1)

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