

Drug/catheter combo for labor induction could save 2.4 million hours of labor annually, study shows

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Labor induction is one of the most common medical procedures in the world, with nearly one-quarter of women who deliver in the U.S. undergoing the procedure each year (totaling roughly 1 million). Despite its widespread use, labor induction is costly and still has no widely accepted "best practice." Now, new research from the Perelman School of Medicine at the University of Pennsylvania is showing what may be the best available method for inducing labor, which may be necessary under circumstances including medical conditions such as preeclampsia, gestational diabetes or other health risks to the mom or baby.

In the largest-ever clinical trial of [labor induction](#) methods, researchers found that on average, the use of the prostaglandin-like drug misoprostol, along with a balloon catheter known as the Foley catheter that is inserted into the vagina and gently coaxes the cervix to open, led to delivery several hours earlier than either method alone, or via the combination of the Foley catheter and the contraction-inducing hormone oxytocin. The results are published in the December issue of *Obstetrics & Gynecology*.

"Previous studies comparing labor-induction methods, have looked at a small patient population, few induction methods, and have produced conflicting results. Our results clearly show that the misoprostol-Foley combination method could significantly reduce the total time mothers spend in the delivery room - potentially leading to a reduction in labor-

associated healthcare costs and risks to mothers and their babies," said lead author Lisa D. Levine, MD, MSCE, an assistant professor of Obstetrics and Gynecology at the Perelman School of Medicine at the University of Pennsylvania.

In the study, the research team enrolled nearly 500 women who needed labor induction at the Hospital of the University of Pennsylvania, and randomly assigned them to one of four different treatments that obstetricians commonly use to induce labor: misoprostol alone, the Foley catheter method alone, the two methods combined, and the Foley method plus a synthetic version of the [hormone oxytocin](#).

Results show the average time between treatment and delivery was lowest for the misoprostol-Foley combination at 13.1 hours, compared to 14.5 hours for Foley-oxytocin, 17.6 hours for misoprostol alone, and 17.7 hours for the Foley method alone.

Levine says the more than four-hour gap between misoprostol-Foley and either method alone is clinically meaningful, particularly considering the results showed the various methods did not produce significant differences in the rates of cesarean deliveries or of serious medical complications for the mother or child.

The findings have a clear clinical implication. "Using combination methods in every case of labor induction in America would spare pregnant women more than 100,000 days of labor annually," Levine said. "That in turn would reduce hospital costs, reduce the health risks to mother and child that come with prolonged labor, and reduce the stress that mothers experience while awaiting delivery."

The research team suggests future studies examining the combination vs. single methods in other large patient populations would enable more detailed comparisons of health outcomes for mother and baby with

different induction methods.

Provided by Perelman School of Medicine at the University of Pennsylvania

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