

## ACNM Responds to Release of Clinical Trial Comparing Delayed to Immediate Pushing

The October 9, 2018 issue of *JAMA* contains the results of a multicenter randomized controlled trial of immediate compared to delayed pushing in the second stage by Cahill et al.<sup>1</sup> This study included 2414 nulliparous women at term who had epidural analgesia. The participants in this study were randomized to immediate pushing once cervical dilation was determined to be complete or to delayed pushing for 60 minutes unless instructed to push or unless the woman had an urge to push.

It is important to note that this study population consisted of *nulliparous women with epidural analgesia who did not have an urge to push or an indication for immediate pushing*. Therefore, these results are applicable only to this population.

No differences were found in the comparison of “immediate” versus “delayed” pushing in the following outcomes:

- Rate of spontaneous vaginal delivery (85.9% immediate vs. 86.5% delayed; RR, 0.99; 95% CI, 0.96 to 1.03; P=0.67). In sub analyses, the spontaneous delivery rate was not affected by fetal station, position of the vertex, or study site.
- Operative vaginal deliveries (6.3% immediate vs 5.9% delayed; RR, 1.1; 95% CI, 0.7 to 1.7; P = .75).
- Cesarean births (7.8% immediate vs 7.6%, delayed; RR, 1.0; 95% CI, 0.9 to 1.1; P = .55).
- Endometritis (0.6% immediate vs 0.3% delayed; RR, 1.8; 95% CI, 0.6 to 5.1).
- Composite outcome of neonatal morbidity (7.3% immediate vs 8.9% delayed; RR, 0.8; 95% CI, 0.6 to 1.1). Variables in this composite outcome included neonatal death, birth injury, umbilical cord arterial pH < 7.1, respiratory distress, transient tachypnea, meconium aspiration with pulmonary hypertension, hypoxic-ischemic encephalopathy, hypoglycemia, hypothermia treatment, or suspected neonatal sepsis.

- Women in the “immediate” pushing group had:
  - lower rates of chorioamnionitis (6.7% vs. 9.1%; RR, 0.7; 95% CI 0.6 – 0.9; P=0.005)
  - lower rates postpartum hemorrhage (2.3% vs. 4.0%; RR, 0.6; 95% CI 0.3 – 0.9; P=0.03)
  - shorter mean second stage duration (102.4 vs. 134.2 minutes, respectively, P<0.001)
  - longer mean duration of pushing (83.7 vs. 74.5 minutes; respectively; P=0.005)
  - increased rates of 3<sup>rd</sup> or 4<sup>th</sup> degree lacerations (5.7% vs. 4.6% respectively; P=0.01)
  - lower rate of neonatal acidemia (0.8% vs. 1.2%; RR, 0.7; 95% CI, 0.6 – 0.9; P=0.01).

The mean time from complete cervical dilatation to onset of pushing was 18.9 minutes (SD, 15.1 minutes) in the “immediate” pushing group and 59.8 minutes (SD, 21.8 minutes) in the “delayed” pushing group. Thus, these results were found in a cohort of women, of which many in the immediate pushing group did experience a short period of rest before beginning to push. The study design did not address pushing techniques or maternal positions during pushing.

The American College of Obstetricians and Gynecologists (ACOG) released a Practice Advisory<sup>2</sup> that summarizes this study and recommends that women begin pushing once cervical dilation is complete. Practice Advisories are released in response to developments in clinical issues, whereas Practice Bulletins are evidence-based summaries for practice. The reason for the practice advisory is that the findings of this clinical trial offer new evidence to inform second stage management compared with the prior recommendation for the use of delayed pushing to reduce the chance for cesarean delivery.

ACNM endorsed the ACOG Practice Advisory about the study for several reasons. The study was evaluated and found to have a strong methodology and study design. This study demonstrates similar consistencies with other studies that found associations between prolonged second stage duration and increased rates of chorioamnionitis and hemorrhage<sup>3-6</sup> Furthermore,

the study was *stopped* early following an interim analysis, due to the finding of increased rates of morbidity in the delayed pushing group.

While ACNM endorsed this practice advisory, further research about best practices for management of the second stage of labor as it pertains to this (and all other) study populations is needed. Current evidence can inform practice, and ACNM remains committed to physiologic birth, person-centered care, and shared decision-making.

*This document is provided for information and education. ACNM offers such a summary when a study or report is published that may inform health care management. The content presented in this document is to inform midwives but is not a recommendation for a new standard of care and cannot replace individual clinical judgment.*

#### REFERENCES

1. Cahill AG, Srinivas SK, Tita AT, et al. Effect of immediate vs delayed pushing on spontaneous vaginal delivery among nulliparous women receiving neuraxial analgesia: a randomized clinical trial. *JAMA*. 2018;320: 1444-1454.
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